AMERICAN AGRICULTURIST,

FOR THE

Farm, Garden, and Household.

"AGRICULTURE IS THE MOST HEALTHFUL, MOST USEFUL, AND MOST NOBLE EMPLOYMENT OF MAN."—WASHINGTON.

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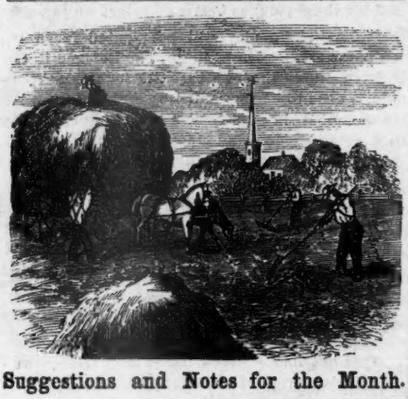


Suggestions and Notes for the Month.

Summer reigns. The beautiful days of June, like lovely maidens, scattered roses in the path as the advancing season journeyed from its Southern home, and now July places the regal harvest crown upon its head. Oriental splendor never equalled the gorgeousness of its court. Field and forest are waving triumphal banners, and earth refulgent with golden sunshine is a fit palace for the glorious monarch. But with the blaze of royalty comes also something of its oppressiveness. The air trembles with the waves of the sultry tide, and nature would fain seek friendly shelter from the noon-day glare. It is unwise for man to neglect the teachings of animal instinct, and while beast and bird hide themselves in the forest until the fierceness of the sunshine is abated, he too should rest from his labors. Want of time need be no excuse for imprudent exposure and exhausting labor, when, as often occurs the heat rises to above 90°. Let the labors of the harvest commence with the early dawn, be suspended during the oppressive mid-day, resumed as the sun declines, and continue while the light remains, and more can be accomplished with greater ease, and with no danger of sun stroke or exhaustion. Men should be merciful to themselves as well as to their cattle, and they will find it no less profitable.

The amount and influence of heat derived by the earth from the sun, form an interesting topic of thought for a noon-day rest, and as many cultivators will look to the *Agriculturist* for instructive entertainment on such occasions, we will note a few facts on the subject. The average amount of heat received from this source year by year, has been quite accurately determined by scientific observations. Youmans states that it has been found by careful measurement, that the quantity of solar heat which falls upon a square foot of the earth's surface in a year, would be sufficient to melt 5,400 lbs. of ice; and as a cubic foot of ice weighs 54 lbs., the heat thus annually received, would melt a column of it 100 feet high; or in other words, if the globe were encased in ice 100 feet thick, the heat from the sun would cause it to disappear in a single year. It is true this heat is unequally distributed, for the earth moves in such a position with reference to the sun, that the rays of the latter strike less directly and consequently with less intensity upon different parts of the surface. Were this not the case, climate would be the same in all latitudes. All countries would produce the same animals and vegetables, and races of men would in time be almost wholly assimilated. But the design of the the Creator was diversity as well as harmony, and by the present arrangement we have the luxuriant vegetation, luscious fruits, mammoth animals, and fiery but unenduring men of the tropics; the useful trees, grains, and animals, and enterprising races of the temperate zones, and the stunted growth of far northern life; each fulfilling the conditions of its own sphere, and each capable of administering to the general good. It is left to the industry of man to make the stores of these different climates subservient to his own needs, and thus a constant stimulus is given to his energies. The wheat now falling before the reaper in the great West, will feed the operators in European workshops, and in return bring their wares to the door of the cultivator. Thus, though climate causes diversity, provision is made also for the brotherhood of the race, and the great law of harmony is complete. Happy will it be for the world when its working shall be developed according to the design of the Great Lawgiver.

Work for the Farm, Household, etc.

It too frequently occurs that haying and harvesting, which cannot be delayed without loss, require attention before the hoed crops have been thoroughly worked. The backwardness of the season will be likely to intensify this state of things the present year, and it should be provided against. Make thorough work in the corn field, even if it be necessary to employ extra help at high cost. Weeds left now will grow rapidly, and not only seriously diminish the yield of grain, but ripen their seed, and cause much hard work to subdue them another season. It is essential that the soil be left loose and mellow, that the roots may find their way through it easily, and that plenty of air and moisture may be supplied, which are especially needed in hot weather. A well tilled field will continue to grow during a drouth that would greatly injure corn standing on a compact, unbroken soil.

Endeavor to engage plenty of help before the busy time commences. The iron muscles of the mower and reaper are more profitable and more easily managed than human laborers. The horse pitchfork will be equivalent to one or more extra hands. At no time of the year is more care needed to prevent loss of health by over-work, and true economy requires that whenever possible, enough help should be secured to prevent a danger from this source.

Barns and Sheds if not already in order to receive crops, should be attended to now. Have ladders or other conveniences at hand for ascending mows and stacks. Read suggestions under this head in last month's calendar. Protect such buildings with lightning-rods, and also keep them well insured against loss by fire.

Bees.—Important directions for their management are given on another page, under "Apiary."

Buckwheat.—Sow where corn has failed, and on new, or pasture land to be devoted to winter grain. A few acres with this crop may add largely to the profits of the year. The grain will be excellent ground with oats for feeding stock in the Fall, or will find a ready market when manufactured into flour. Read "Buckwheat *versus* Summer Fallow," on page 203.

Butter-making in hot weather requires extra care. The milk room should if possible be kept at a temperature not above 60°, by the use of ice or by cold spring water running through the room. If cellars are used for dairying purposes, keep them clean and sweet by frequent whitewashing, and ventilate freely. Allow nothing having strong odor to remain in the vicinity. The barrel for sour milk, whey, etc., to be fed to swine, should never be allowed in the milk room. In sending butter to market, keep it shaded from the sun; freshly cut grass, slightly moistened, is a good material in which to pack the tubs. Keep all utensils perfectly clean and sweet, with the tinned ware scoured bright.

Cabbages may be cultivated with profit as food for stock and poultry, or for market when accessible. Transplant to ground from which early potatoes are taken this month, and sow seed now to have plenty of young plants in readiness when they are wanted for late.

Cattle for fattening next Fall should have a good start by being allowed full pasture during summer. There should be free access to water. If pasture for milch cows be short, feed night and morning with cut grass, clover, or millet, corn, etc., from the ground devoted to that purpose. Calves will thrive well upon a good growth of clover with little other feed.

Cheese is more easily managed than butter during the extreme hot season, and often more profitable. Read suggestions given on page 206.

Draining.—Observe where water stands during summer, and prepare for draining as soon as practicable. The low marshy portions of some farms contain its most valuable land, if properly reclaimed. Dry weather is best for draining if there be time and help sufficient to attend to it. Surplus capital can at any time be

profitably invested in this paying improvement.

Fences.—Keep in order, especially on farm lines, by the roadside and adjoining grain fields and meadows. A broken rail replaced may save great damage to a field of wheat, corn, or oats.

Grain.—Harvest wheat and rye just as the grain is passing well out of the milk. See page 201.

Grass and Clover Seed.—Save enough of the best growth, when it is free from weeds, for a full supply. Pull out all foreign plants, and harvest before sufficiently ripe to loose by shelling out. There is great room for improvement in grass, by selection of the earliest and best seed each successive year.

Hay.—Cut when it contains the most nourishment. Read "Hints for Haying Time" on page 202. Secure all under cover when practicable. If stacks must be made, keep them from the ground by laying upon timber and rails, and erect temporary movable roofs, or thatch with straw. Better stack grain than hay, if there be sheds for only one.

Hedge Rows, and scattered bushes may be subdued by repeated cuttings in hot weather. Allow none to disfigure the farm and give shelter to weeds, mice, and other nuisances.

Hoeing should be continued as long as practicable. Employ horse labor when possible. Cultivate lightly, in order not to destroy the roots.

Manure Making should receive constant attention. Read article on page 202.

Meadows too closely cut often receive much damage by exposure of the roots to the burning sun, especially upon light soil. A liberal top-dressing of fine barn yard manure will prevent this, and stimulate the new growth for abundant fall feed, or for a second mowing. Remove all stones and other obstructions which cause so much annoyance while gathering the crop. Keep out all stock until the grass is again strongly re-established.

Oats.—Cut as directed for wheat and rye, cure the straw thoroughly and store under cover. If properly secured, the straw is valuable for feeding.

Pastures suffer very severely if fed too closely during hot weather, so that the roots are burned by the sunshine. Keep no more stock than can be well fed, and at the same time allow the grass lands to remain in good condition. A mulching of straw upon falling spots would often be of great service; but reseeding is the only remedy where the grass has been supplanted by weeds. A crop of buckwheat will aid in subduing these, and will prepare the ground for seeding with rye in the Fall.

Poultry should be kept from the grain fields until after harvest; then they will glean enough to bring them into fine condition for laying, or for the table.

Potatoes.—Dig and market early varieties as soon as practicable, while they command good prices. The ground may then be devoted to turnips and late cabbages. Hoeing of later sorts should be finished before they blossom. High hilling is not advisable. It induces the formation of new tubers along the part of the stock covered, and prevents the growth of those already formed. It is better to plant rather deep at first, and then leave the surface nearly or quite flat. If the rot appear when the tubers are ripening, dig and dispose of them at once, that they may be used before decaying.

Seed Wheat, Rye, etc.—Read article on page 201.

Sheep.—Keep them in good condition by allowing full pasture, and providing for access to water. Give them salt weekly. Watch against foot rot.

Sorghum, Millet, or *Corn* may still be sown for feeding late in the season, or to be cured for fodder. This will enable many to provide against a deficiency of feed for winter.

Swine.—Keep them in a clover pasture or orchard, and feed moderately with grain until crops are harvested; then give them the range of the wheat and rye fields, where they will be well prepared for fall fattening. Give green peas with the vines, corn stalks, clover or other succulent food with milk and grain to those confined in pens. Keep their apartments well cleaned, and secure all the manure.

Tools.—See that all needed for haying and harvest are provided, and in good order. Examine mowing machines before using, and have every bolt and nut tight, the knives sharp, and all bearings well oiled. When not in use, keep all implements under cover.

Turnips.—Sow strap-leaf and other quick growing varieties among corn, after early potatoes, and on vacant ground. A dressing of good superphosphate will hasten the growth.

Weeds.—Allow none to go to seed. Those cut when nearly ripe should be burned, otherwise the seed may mature before the stalk dries, and if added to the manure heap be ready to spring up with the crops next year.

Orchard and Nursery.

Notwithstanding the bountiful crops of last year, there is a prospect that in many localities there will be plenty of fruit this year. The manure applied to the orchard in Spring is now showing its effects in a vigorous growth of wood, and in the rapidly swelling fruit. The orchard should be kept in such a condition that it will never need severe pruning, but whatever cutting is to be done should be attended to the present month. We give on another page some general hints about the pruning and treatment of the orchard.

Budding.—This will commence this month. Plums are usually the earliest stock to be worked. As soon as well formed buds can be had, and the bark of the stock parts freely, the operation may be performed. The process is fully described in the July *Agriculturist* for 1862. Though it takes some time to describe it, the operation is really a very simple one, and after a few trials it will be found that it can be done quite rapidly. Insert the bud as near the ground as possible Use every precaution to guard against mixing or confusion of sorts. Recollect that merely budding or grafting a tree will not give good fruit unless the buds or grafts are taken from a good sort. Label distinctly at the time of budding. The stocks budded last season should be rounded off close to the new branch from the bud, and all suckers kept down.

Cherries.—In picking these for use or for market, employ only careful hands. Much damage is often done to the trees in gathering the fruit. Use a tall step ladder and draw the branches towards you with a wooden hook, easily made for the purpose.

Grafts.—Examine the grafts set this year and replace or renew the wax if it has been displaced. Vigorous shoots often start from the stock near the graft, which rob the graft of nourishment if they are not removed. Cut off all such.

Insects.—The war against these must still be carried on. Actual destruction is always a sure remedy. The tadpole-like slug which appears on the pear trees may be made to retreat by dusting with lime or ashes. These may be applied to quite tall trees by the use of a bag of some open fabric, tied to a long pole. One of our largest fruit cultivators tells us that he is troubled with no insects. His grounds are full of birds, and he is willing to give them a dessert of nice fruit after their dinner of insects. Spare the birds, and make them feel at home.

Layering.—Shrubs and vines to be propagated by this process may mostly be layered this month.

Manure and Mulch.—Bearing trees will appreciate a supply of either liquid or solid manure. During dry weather see that a good mulch is kept around trees planted this year; it retains moisture.

Thin out the fruit on trees disposed to overbear. This advice is difficult for beginners, but all experienced fruit growers know that much finer fruit is produced by thinning out freely. Dwarf trees often set fruit the first year; they should not be allowed to bear more than a single specimen or two, to test the variety, and it would be better for the tree, to take all off, and let the tree make wood only.

Weeds.—These are to be kept out of the nursery as thoroughly as from the kitchen or flower-garden. The plow, cultivator and hoe are the remedies.

Kitchen Garden.

The professional gardener does not need to be told that much of his success will depend upon the tillage given this month. But the farmer who holds field crops as of the first importance, is apt at this season to neglect the garden. Haying and harvesting engross all his attention, and the garden, begun with the best intentions, is often neglected at the very time when it needs the most care. Every odd hour should be occupied with hoeing in the garden. Much can be done here with the hoe when heavy dews prevent early morning labor in the fields, and at nightfall when the main work of the day is over. The boys should be taught to take a pride in the garden, and where there are several boys, each should have charge of a portion.

Asparagus.—Cutting should have ceased last month. The tops should be allowed to grow, and the bed will be all the better if a good coating of manure is applied. Keep down the weeds. Look out for the asparagus beetle described on page 212.

Beans.—These may still be planted for a late crop, for salting or pickling. The Refugee is considered one of the best varieties for this purpose. Limas need to be forwarded as rapidly as possible by frequent hoeings and liquid manure. When not disposed to wind upon the poles at first; twine them around carefully. When a vine reaches the hight of 5 or 6 feet, pinch off the end of the main stem, and head back all long side branches.

Beets.—Keep well hoed, and thin out to 8 or 10 inches. As the early sorts come into use, reserve the earliest and finest specimens for seed. Sowings may still be made, and if the weather is not unusually dry, a fair late crop may be expected. If necessary, transplant to fill vacancies in the rows.

Cabbages and Cauliflowers.—Finish transplanting for the late crop. If the weather is dry, extra care should be taken according to direction given last month, on page 175. Look out for caterpillars. When they are small, they remain close together, and a whole brood can be destroyed by breaking off a single leaf; if left until they become scattered, they must be removed singly. Hoe often and thoroughly, and give, to cauliflowers especially, an occasional dose of liquid manure. The early cabbages are now fit to be gathered. The stumps may be left to produce sprouts for greens, or be cleared away to make room for some other late crop.

Celery.—Plant out in well prepared trenches, shading if the weather is very hot. The growth should be forwarded by abundant watering. If the drainage is good, water may be used very freely. Keep free from weeds.

Carrots.—Hoe until the growth of tops prevents.

Corn.—The sweet varieties may be planted early this month, for late use and for drying. Put in an extra row or two at least, to dry for the soldiers.

Cucumbers.—Plant for pickles in well prepared ground, the first of the month. Hoe those already up, and water if the weather is very dry. Recollect that there is nothing more acceptable to your friends in camp and hospital than good pickles.

Egg Plants.—These are slow growers at first. When they get well established, hurry them up by frequent hoeings and by applying manure water.

Endive.—This takes the place of lettuce as a late salad. Sow in the same way as lettuce, for late use.

Herbs.—All the aromatic herbs should be cut while they are in flower, and be either tied in small bunches or spread out thinly and dried in the shade.

Hoe.—The hoe and the rake should be kept busy whenever the ground is not too wet. If dry, hoe the oftener; cool soil condenses moisture from the air.

Insects.—The fight must still be continued according to hints given elsewhere, and in former months.

Lettuce.—In the hot Summer months, this tends to run early to seed. Sow for succession in a partially shaded place. The Silesian is one of the best varieties for Summer. Save the *best* heads of early sorts of lettuce, and of other plants for seed.

Manure.—Now is the time to push plants. Just before a shower and during "good growing weather," give manure in a liquid form. The home-made guano which has been saved from the poultry house will come in play now. A half bushel of this in a barrel of water, or a liquid made with cow manure, of the color of tea will do wonders in the garden. Use sink slops if you have nothing better. Apply to the roots only.

Melons.—Continue to hoe. Pinch back the vigorous growers, and if you wish choice fruit, let no more remain on the vine than can be ripened. A good part of the fruit is usually cut off by frost.

Onions.—Keep clear of weeds, and thin if the plants are crowded. See note on the maggot in last month's Calendar. Seed may be sown for small bulbs for next Spring's planting and for pickles.

Peas.—Preserve the best for seed, and pick as soon as the pods become dry. Seed may be sown for late crops, but they generally mildew. Deep planting is said to prevent this in a measure, and we have seen it stated that they will not mildew if planted at the bottom of a trench, but we have had no experience in this method of growing them. When other vegetables are abundant, late peas, though good, are not much missed late in the season.

Potatoes.—The early sorts, and none other should be grown in the garden, will be out of the way by the end of this month, and the ground may be given up to the cabbages which have been planted between the rows, or cleaned off altogether to make room for turnips, Fall spinach, etc.

Rhubarb.—The flower stalks should be cut off unless it is desirable to save seed. Tender stalks may still be pulled from near the center of the plant, but it is better to let the root recover its strength if it has been severely plucked. The stalks may be dried in the manner of apples or, what is better, may be preserved in bottles like fruit. A drink called "Rhubarb Wine" may be made from the juice according to a recipe given on page 215.

Seeds.—Early maturing seeds, such as those of cabbage and turnips, should be gathered as soon as the pods begin to turn. The stalks should be cut and the seed allowed to mature in the shade.

Squashes.—Hoe until there is danger of injuring the vines. Keep a sharp look out for insects. Hand-picking early in the morning is a sure remedy. Search for the borer described last month (on page 173). In localities where the season is short, allow each vine to bear but two or three squashes.

Tomatoes.—Pinch off the ends of the rampant branches, and remove all fruit showing signs of decay. Lay brush on the bed for the vines to trail over, or mulch with straw and let them fall down. The potato or tobacco worm, figured and described on page 108, May *Agriculturist*, often makes great havoc with the tomatoes. Search for and crush him.

Transplanting.—Vacancies in most crops can be filled by careful transplanting. Many plants are decidedly benefited by it, and few are injured if the work is carefully done. Missing hills of corn can be filled out from those containing too many plants, and other things not usually transplanted can generally be successfully moved to fill up deficiencies.

Weeds.—If there are any weeds in the garden, it is either too large, or it is neglected. You can raise weeds if you choose, but it will not be because the teachings of the *Agriculturist* have been followed.

Flower Garden and Lawn.

The backwardness of the Spring, and the dryness of the early part of June, have probably retarded many of the flowering plants, so that the present month will present a much greater variety of flowers than usual. Bedding plants may still be put out to fill the places occupied by early flowering bulbs. With skillful management, there need be no lack of attractiveness in the garden from the time frost disappears until it returns in Autumn.

Annuals.—If any of these have failed, lose no time in resowing. Though they may not mature seeds, most of them will yield a late bloom.

Bulbs.—Take up and dry as directed last month.

Carnations should now be in fine bloom. Keep the stalks tied up to stakes, and if the flower bursts irregularly, slit the calyx. Make layers and cuttings.

Climbers.—The herbaceous climbers like Ipomœas, Maurandias, Cobœa, etc., should be provided with strings or wires. Those woody ones which require to be laid down in winter, should not be allowed to interweave themselves into the lattice or trellis in a manner that will render them difficult to remove.

Dahlias.—Stakes, strings, mulch and liquid manure are the elements of success in the culture of these. Read article on training, on page 211. They may still be set with a prospect of late flowers.

Evergreens whether singly or in hedges should be pruned this month. Do not trim up the lower branches unless they are diseased. The great beauty of an evergreen consists in its broad spreading base.

Grass.—The lawn should be mowed as often as there is anything for the scythe or mowing machine to cut. If the grass is cut when very short it may be left to fertilize the lawn. Keep all edgings and the borders of lawns evenly cut. Do not allow any runners from the grass edgings to obtrude upon the borders or walks, or they will make trouble.

Keeping.—Neatness and care should characterize every department. Keep all plants which are in danger of being prostrated by winds, neatly tied to stakes, peg down bedding plants, cut away the dry flower stalks and clusters after the bloom is over, and make frequent use of the rake, to clean up.

Potted Plants that are placed about the grounds, dry out very soon and need frequent watering. They should be turned or moved occasionally to prevent the roots, which grow out through the hole in the bottom, from fastening the pot to the soil.

Rhododendrons.—These are very apt to suffer during the intense heat. Mulch their roots carefully.

Roses.—Keep pillar sorts and climbers well secured. Cut off the flower stems as soon as the bloom is past its prime. Nothing looks more slovenly than to see the ground littered with fallen rose leaves. Cut back the remontants to secure a late bloom. Treat the rose slug to a solution of 1 lb. whale oil soap in 6 gallons of water. The Aquarius will be found a convenient apparatus with which to apply it, but a common tin syringe will answer. Apply to both the under and upper side of the leaves.

Seeds.—Save the seeds of the biennials and perennials now ripening. If not needed in your own grounds they will be acceptable to friends. Label with the greatest care, and keep dry, but not hot.

Verbenas.—Keep them well pegged down. Suitable hooks for the purpose can be cut from shrubs or asparagus shoots, hair pins are sometimes used.

Water newly planted shrubs and trees if they appear to languish. Remove the surface earth, give a copious watering, and then replace the earth.

Weeds.—Use the hoe and rake frequently, and hand-weed near the plants. Begin early; the pulling of large weeds disturbs the roots of plants.

Fruit Garden.

The harvest has already begun here. A crop of nice strawberries has opened the season of fruits.

Blackberries.—Keep the canes well tied up. Where the crop of fruit is heavy the bearing branches will need support. Hoe frequently or keep well mulched.

Currants.—These often bear so heavily as to break down the branches, tie up or stake where this is the case. Gather when first ripened, for jelly. Leave those intended for bottling until fully ripe.

Dwarf Fruits.—Keep the trees planted this Spring well mulched. Summer pinching should be done. See article on page 210. Thin out the fruit from over-loaded trees. Give slugs a dusting of lime or ashes as directed above for the orchard.

Grapes.—Pinch off the bearing shoots leaving at least three or four leaves beyond the bunches. Rub off all superfluous shoots, and thus save fall pruning.

Raspberries.—These will now need daily picking. As soon as the fruiting season is over, cut down the old canes and train up the new growth; remove all superfluous shoots, leaving but two or three of the strongest to each plant. If it is desired to multiply the variety, the superfluous canes may be left to grow to be removed for transplanting in the Fall.

Strawberries.—Where the plants are cultivated in hills, keep the runners closely pinched off. If new plants are wanted, spade manure in between the rows and let the runners grow. They will soon take root and multiply with very great rapidity.

Green and Hot-Houses.

The houses are emptied of all but the tender tropical plants; those which remain need free circulation of air and frequent waterings. Where the sun is too powerful, its force should be broken by coating the glass with whiting or by a muslin screen.

Budding may now be done upon the woody plants whenever the stock is in working condition.

Callas.—Repot them now, and water less freely.

Cuttings.—A stock may be put in for plants of such varieties as are desired for winter blooming.

Earth for Potting.—Prepare a good supply and have it well mixed. The sods from an old pasture stacked up and allowed to decay, make a most excellent material; also black earth from the woods.

Grapes.—Those vines from which fruit has been gathered, should have less water and plenty of air in order that the wood may ripen. Later vines still need to be pinched in and to have the clusters thinned. Water and syringe frequently, and use sulphur if mildew appears.

Insects.—These still continue to increase and the houses will need watching. Whale oil soap and fumigation must be used from time to time.

Potting.—Seedlings should not become too much crowded. Pot before they get weak and drawn up.

Water.—Give freely and use the syringe. In very dry weather, water will be needed both morning and evening. The "aquarius" is convenient for this.

Apiary in July.

Prepared by M. Quinby—by request.

The surplus honey must be looked after this month. Do not let any of the bees lose time for want of boxes now. A good yield may be lost by putting off supplying extra boxes, for only a short time. The greatest yield of white clover is in the early part of the month, it falls somewhat toward the last, and continues a moderate show of flowers until the end of the season. The entire yield from basswood will be given in about two weeks; sometimes commencing as early as the 4th, at others as late as the 18th. Where this timber is abundant, the collections are sometimes wonderful. The flowers are pendant, and wet weather makes less difference with the honey secreted, than with clover. The honey in appearance is equal, if not superior to any other. The flavor is particularly palatable to many, on account of its peculiar aroma....Keep a supply of boxes on hand to replace the full ones as fast as filled. One *full* box is preferable to two or three half filled. A little management will secure an addition to the number of full ones. A stock will often swarm too much when the boxes are only half filled, and leave too few bees to add any more. When there is no prospect of more being done, take the boxes away and give to some strong colony to finish. A box may be changed half a dozen times on some occasions, if necessary. To get rid of the bees taken off with the boxes, take an empty box, bee tight, put in the boxes on their sides, combs vertical, in such a way that the bees may creep out of all. Throw over them a sheet, that no bees may get in or out. After standing a little time, the bees, in their endeavor to escape, will get on the under side of the sheet, when it may be turned over; by repeating this a few times all may be disposed of

Bees in this way will not sting, unless provoked at first. To save the honey through the hot weather, put it in a dry place, and cool, if possible, to prevent the moth eggs from hatching. Paper or cloth may be pasted over the bottom to keep out insects. There are now more moths, than at any time before during this season, and they will be likely to find more convenient places to deposit their eggs. There will be some small swarms, some old stocks thinned by over-swarming, or queenless ones that will suffer particularly. A little assistance will save some of them from ruin. Sweep out all filth frequently, and destroy all the worms to be found.... Towards the last of the swarming season, preserve a few small swarms; you will find some queenless ones that will need them. But few can comprehend how soon a colony will die off, unless there is a queen present to keep up the population. A laying queen is worth much more to introduce, than a brood from which to rear one. In one case bees will be hatched in three weeks, in the other it will take six—time enough to have small colonies destroyed by the moth. When there are no available means to raise a colony strong enough to defend itself, it is best to break it up and secure the honey and wax in advance of the destruction awaiting it. Remember that as the bees get out, the worms get in—in defiance of all patent arrangements to the contrary....Put some old pieces of comb under the swarms, only part full; the moth will be deceived, and lay her eggs there, when the worms are easily destroyed. Set dishes of sweetened water among the hives at night. Many insects besides the bee moth will be drowned....Those using the movable comb hive, will be pleased to learn that a principle has been discovered by which all combs will be built straight. Immediately after the bees are hived, the back end of the hive is raised about 30 degrees, having the frames run from front to rear, the sides of the hive exactly vertical. When the bees have worked their combs across the top, it may be let down level. It takes but a moment to raise one end of the bottom board on blocks of wood, or bricks, and the result is satisfactory. It is believed that if these conditions are complied with, there will not be a failure....All who winter bees in the open air, should be made acquainted with the importance of straw for the hives. It is probably the best available material. It is best before being threshed, and that of wheat or rye is nicest. Select it at harvest time; cut off the heads, tie in bundles, and put away until a spare time to make into hives. Make the walls of the hive two inches in thickness, and of the same proportions inside as the movable comb wood hive. At the approach of cold weather, the contents of the wooden hive—combs, honey, and bees—are transferred into straw, to pass the winter in the best condition.

The Great Strawberry Exhibition—

A Monster New Seedling.

We close up the present number in the middle of the great Strawberry Exhibition, and have only room for a brief account. The previous very dry, hot weather, gave too early maturity to some varieties, while the violent driving rain on Wednesday afternoon, and rain also on Thursday morning, interfered with picking. The invasion of Pennsylvania prevented the expected large exhibition from Pittsburg and vicinity. Yet with all these drawbacks, the display was very large, and the samples very superior, showing considerable progress and improvement during the year past. It is conceded on all hands to be the finest show of the kind ever made in this country; and having ourselves seen the best displays in Europe, which were far inferior to this, we are safe in saying that the Strawberry Exhibition at the *Agriculturist* office June 18th, 19th and 20th, was *the best one ever held since this delicious fruit was introduced into cultivation.* The number of visitors was from 20,000 to 25,000 during the three days.

The show was a *great* one, not only in the amount of fine specimens presented, but especially in the size and excellence of the fruit. There were scores of plates of fruit, of such size and flavor as would hardly have been dreamed of ten years ago. On one plate were fifteen berries which, put upon the scales, weighed down a full pound avoirdupois! It takes from 120 to 150 good samples of the staple market berries of this city to weigh one pound. Triomphe de Gand berries, 22 to the pound, were also shown, and several others nearly as large. There were about 200 plates, usually containing one to two quarts each, shown by 26 exhibitors. Omitting notice of many other excellent and improved seedlings until our next number, we will only add, that one of the great centres of attraction was the new, unnamed seedling (No. 10) shown by Mr. Seth Boyden, of Newark, N. J., the well known inventor of the processes of making Malleable Iron, patent leather, etc. It is a product of Peabody's Seedling with the Green Prolific, the latter produced from Kitley's Goliah and Hovey's Seedling. It has therefore a most excellent *pedigree.* Its form is nearly conical, somewhat necked; deep scarlet color, extending to the core; solid, and of pleasant pine flavor. The size is enormous, the average berries exceeding anything ever before seen in the strawberry line. Both the plant and berry will be described and illustrated hereafter. To save useless letters of inquiry to Mr. Boyden (or ourselves), we will state, that no speculation will be allowed with this new and remarkable strawberry—no "$5 a dozen when ten thousand purchasers are secured." *Not a single plant is for* SALE *on any terms,* but it will be multiplied as rapidly as possible, and next year the plants that can be produced in the meantime, will be *given away* as a donation to the public. Previous to the announcement of the time and manner of distribution, no applications for plants will be answered by Mr. Boyden or others.

PRIZES AWARDED.

Best 25 varieties, one quart each, $7, to Wm. F. Heins, Morrisania, N. Y.

Second do., $5, A. S. Fuller, Brooklyn, N. Y..

Best Dish Market Berries (2 qts), $3, to L. M. Pease, N. Y. Farm School, Mt. Vernon, for Triomphe de Gand.

Second do., $2., to S. R. Trembley, Bergen Point, N. J., for Union variety.

Third do., $1, to L. M. Pease, for Wilson's Albany.

Largest Berries (weight and size considered,) $2, to Seth Boyden, Newark, N. J., for the New Seedling.

Best New Seedling, not before exhibited, $5, to Seth Boyden, Newark, N. J., for his unnamed, No. 10., the New Seedling.

Second do., $2, to J. W. Faulkner, Stamford, Ct.

Best flavored Strawberry, (1 quart,) $2, to A. S. Fuller, Brooklyn, unnamed Seedling No. 8.

Best Quart White Strawberries, $2, to Jno. Drummond, Gardener to Mrs. Jas Strong, Newtown, L.I., Bicton Pine.

Best Pint of Empress Eugenie, $1, to E. Marshall, Poughkeepsie, N. Y.

Best Quart Fillmore, $1, to E. Williams, Mt. Clair, N.J.

Best Quart of Cutter's Seedling, $1, to E. Marshall, Poughkeepsie.

Best Quart of Triomphe de Gand, $1, to F. W. Devoe, Fordham, N. Y.

Best Quart Wilson's Albany, $1, to L. M. Pease, Mt. Vernon, N. Y.

Best Quart of Hooker's Seedling, $1, to Francis Brill, Newark, N. J.

Best Quart Hovey's Seedling, $1, to E. Williams, Mt. Clair, N. J.

Best Quart of Jenny Lind, $1 to John Drummond, Gardener to Mrs. Strong, Newtown, L. I.

Best Quart Vicomptesse Hericart deThury, $1, to H. C. Fuller, Godwinville, N. J.

Great American Exhibition of

Pumpkins, Squashes, and Ornamental Gourds,

The **Second Annual Exhibition** of PUMPKINS, SQUASHES, AND ORNAMENTAL GOURDS, at the office of the *American Agriculturist,* 41 Park Row, New York City, opening on Wednesday, **Nov. 4th, 1863,** at which the following Prizes will be paid by the Publisher, upon the official award of competent Committees.

CASH PREMIUMS,

A—For the *Heaviest* Pumpkin or Squash.....	$10.00
B—For the 2nd *Heaviest* Pumpkin or Squash...	5.00
C—For the 3d *Heaviest* Pumpkin or Squash.....	3.00
D—For the Best Pumpkin or Squash for *cooking.*	5.00
E—For 2nd Best Pumpkin or Squash for *cooking*	3.00
F—For the largest yield on a single Vine.....*	10.00
G—For the 2nd largest yield on a single Vine...*	5.00
H—For the largest and finest collection of Fancy or Ornamental Gourds*.....	7.00
I—For the 2nd largest and finest collection of Fancy or Ornamental Gourds*.....	4.00

*All to be grown by one person and to be accompanied by positive evidence from the grower, and one disinterested person who assists in gathering the specimens.

Note 1.—The specimens receiving the Prizes will remain on Public Exhibition at the pleasure of the Publisher who offers the prizes. The other specimens will be subject to the order of the exhibitors, or they will be sold at auction or otherwise disposed of, for their benefit.

Note 2.—All Exhibitors must notify us of their intentions by Oct. 15th. and deliver specimens for competition on or before Nov. 2d. Specimens to be delivered free of charge.

Note 3.—The same specimen can compete for only one of the premiums offered above.

Containing a great variety of Items, including many good Hints and Suggestions which we give here in small type and condensed form, for want of space elsewhere.

Editor Absent.—The June and July numbers of the *Agriculturist* are issued without the direct assistance and supervision of Mr. Judd, who is making his usual Summer tour to observe and study the general farming operations of the country. This year he will happen, often unawares, or *incognito,* among some of our readers at the West, especially in the Prairie States.—We trust the "matter and manner" of these two numbers will, in part at least, show a realization of the Proprietor's idea, viz.: to have a sufficient force to carry on the journal in full vigor, even should sickness or death, or other causes chance to deprive it of one or more of its leading editors. The *Agriculturist* has come to be an "institution" not dependent upon the life or efforts of any single man.—— Personal letters, may for the time being, remain unanswered. All business matters connected with the paper will be promptly attended to. We hope to exhibit to the Proprietor on his return, a large increase in the subscription lists. The premiums offered are worth working for.

ASSOCIATE EDITORS.

The Premiums Close July 31.—That there may be no disappointment, we repeat that all premiums of every kind, general and special, will close on *July* 31, excepting only the new Barometer Premium, and the Wringing Machine No. 2; these will continue open to August 31. For special Premiums see page 224. For general Premiums see page 155, June No. It is not probable that we shall offer any premiums in future.

The Strawberry and Grape Premiums are continued this month, and now is the only time to secure them. See page 224. A clergyman, in Illinois, writes us that the 25 plants received last year for two subscribers, multiplied so that he gave away several lots of 50 plants to his friends, and had more to give away in the same manner, besides a plot as large as he wanted for fruit for his own family. From what we hear, we judge there are millions of improved strawberry plants growing in the country, which sprung from the forty thousand plants sent from the *Agriculturist* Office last year.

Criticisers of Advertisements will please *read* last article on page 168 of June *Agriculturist.* They need *not* read the Tribune and Herald advertisements last month and this.

Farm House Plans.—E. T. Benedict, Cuyahoga Co., O. We hope ere long to give plans for a commodious and economical farm dwelling; meantime we invite subscribers to forward designs for such buildings, suitable for the accommodation of a family of eight or ten persons, the cost not to exceed two thousand dollars, and, as much less as practicable. Especial attention should be given to make the rooms convenient for doing the housework.

Sorgho Mills and Boilers.—To several inquirers. We can not answer all the questions sent in. The "Clark Sorgo Machine Company" of Cincinnati, make good Mills, and Blymyers, Bates & Day, of Mansfield, O., make the Cook's Evaporator, which, from all accounts, seems to be the favorite boiler. The advertisements of both these parties may be found on another page, and by addressing them, much of the information required can be readily obtained.

Good Hemp Brake.—E. D. Gaines, Grant Co., Ky. The newly invented brake of Mallory & Sanford, advertised in this number, breaks hemp even more perfectly than flax. The fibre comes out entirely free from woody matter, and without any waste from tow. It can be worked by any ordinary horse power machine.

Barren Grape Vines.—C. J. Hollingsworth, Herkimer Co., N. Y. If the fruit sets on the vine after blossoming and fails to come to perfection, the difficulty may be in improper location, poor soil, or want of proper pruning. If, however, the blossoms do not develop into fruit, it is undoubtedly owing to a radical defect in the blossoms themselves, probably to the absence of stamens with which to fertilize the pistils. Such plants, called pistillates, are quite common. Several kinds of strawberries have only one set of organs. The only way to secure fruit from such, is to supply them with pollen from other plants having the reproducing organs complete. It is usually done by planting staminate varieties near the barren sorts; the pollen is carried to the plant lacking it, by the wind and by insects.

Value of Goats.—"A subscriber to the *Agriculturist* asks about the value of goats kept for milk, with information as to their desirableness, etc. They have some excellent qualities, but some that are particularly undesirable. They may be kept very cheaply, as they will eat almost any green thing, and many weeds which other animals refuse. We have seen a goat eagerly feeding on brown paper. Their milk is very rich, and considered excellent food for children. But they are also very mischievous if allowed to run at large. Not a flower, plant, or tree is safe from their depredations. If kept at all, it should be in an enclosure where they can do no harm. Then if the pasture be rich, a good goat will probably yield milk enough to be profitable.

Scab in Sheep.—O. L. Walter, Luzerne Co., Pa. This disease is caused by the presence of a minute parasitic insect, which burrows in the skin of the sheep. It is very contagious. Infected animals should be separated from the flock, the scabs scoured off with a stiff brush and soap suds, and afterward dipped in a strong decoction of tobacco mixed with a little spirits turpentine.

To Destroy Sheep Ticks.—John Scott, Niagara Co., N. Y. Immediately after shearing, dip the sheep and lambs in a pretty strong decoction of tobacco. This will destroy the ticks without injuring the flock.

Insuring Sheep against Dogs.—Geo. I. Evans, Jefferson Co., Ohio., writes that since the Legislature of that State refuses to tax dogs, the Trenton Farmer's Club proposes to organize itself into a sort of Insurance Co. for protection of sheep. We suppose it would only extend to members of the club who would be assessed to pay for the sheep destroyed each year.

Proof against Sheep-Killing Dogs.—C. H. Field, Westchester Co., N. Y., writes to the *Agriculturist* that conclusive proof against sheep-killing dogs may often be had, by examining their mouths. Small pieces of wool will be found between their teeth for several days after they have been on a foray. They are cunning enough to wash off marks of blood, but can not pick their teeth so readily.

Ringbone in Horses.—C. D. Wilson, Chautauqua Co., N. Y. This disease is often hereditary. Colts but a few months old have frequently been affected with it. It may be caused by any strain of the ligaments in the region of the pastern joint. There is no complete cure known. Lameness may be removed by rest, and stimulating liniments, or counter irritants, as blistering the skin. Prevention is found in careful usage.

Cure for Scratches.—"Non Equus" contributes to the *Agriculturist* the following remedy for scratches in horses, which he says is infallible: Mix one ounce of verdigris (sub-acetate of copper) with a gill of unsalted lard, and daily anoint the affected parts with a teaspoonful of the ointment. The feet and legs of the animal should be washed with warm soap suds, and wiped dry, before applying this preparation.

Warts on Horses.—Samuel Thompson, Salem Co., N. J., writes to the *Agriculturist* that he has been successful in removing warts from horses without resorting to the knife. He uses a mixture of one part flowers of sulphur to two parts of Alcohol by measure, to be well shaken and applied daily until the wart disappears.

To Keep Rats from Harness.—Samuel Thompson, Salem Co., N. J., recommends to mix a little tar with the oil used on harness, which he says will keep rats from gnawing it.

Gapes in Chickens.—"Inquirer." Prevention is better than cure. Young chickens kept in dry, clean quarters, and fed with cracked corn, the size of the pieces being suited to their age, are seldom affected with this ailment. Many remedies have been published; the favorite one is to dip the feather end of a quill in spirits turpentine, open the mouth of the chicken and twist the feather in its windpipe. This will remove or destroy the small worms which accompany the disease, and sometimes effect a cure.

A Mischievous Bird.—Noah B. Aiken, Lorain Co., O., writes to the *Agriculturist*, that the Barn Wren is a very troublesome bird, throwing out the eggs from the nests of swallows and other birds, and thereby meriting shooting at sight. We are not acquainted with any bird of such habits. It certainly cannot be the common wren, which though resolute in defending its own premises, is not, to our knowledge, an invader of the rights of others. Can any one give such a description as shall certainly designate this mischievous bird, and give a warrant for its execution?

Sparred Floors for Cattle.—"Farmer." Erie Co., N. Y. We somewhat question the expediency of using them, especially in Winter. The liquid manure will indeed pass away readily, but then the cold winds will also blow up through them, making the stalls chilly and unwholesome. Manure will freeze worse in such stalls than in others. And moreover, a grating makes an unpleasant footing for man or beast.

Red Durham Cattle.—L. W. Goodrich, Piscataquis Co., Me. Certainly, there are imported Durhams whose color is uniformly red, and whose blood is as pure as the white or roan stock.

Protecting Bee-Hives from Ants.—J. Hills, writes to the *Agriculturist* that he effectually protected his hives from black ants, which had previously been very troublesome, by placing the supports of the stand in troughs of water. The insects were unable to swim over, and the hives were left unmolested.

Mignonette for Bees.—Walter Fish, an Apiarian of Clackamas Co., Oregon, seeing it recommended to sow mignonette for bees to make honey of, tried the experiment and found the honey made from the blossoms had a strong odor like that of buckwheat. Mignonette is an annual, worthless, as he says, save for honey, while buckwheat blooms all Summer and then gives a crop of grain. He says white clover is better than either for honey, good for stock, and fine to turn under as a fertilizer.

Non Swarming Hives.—In reply to a communication to the *Agriculturist* on the value of non-swarming hives, by Jasper Hagen, Mr. Quinby writes: "J. H. presumes because he has had some experience with a half dozen hives, two or three years, in one place, that all other bees in the country will do the same. These non-swarming hives, *are not to be depended upon as such.* Until we can get one that will, it seems like a waste of time to discuss their profit as compared with the swarmer. I have had no reason to change the opinion given ten years ago on this point, in the 'Mysteries of Bee-Keeping,' pages 37-8 and I have had much subsequent experience on this point. In this locality, I find three in eight will swarm, even when put in the dark room.... In such room, the surplus honey is in bad shape for market. A good non-swarmer is a very desirable article, and one that would give the surplus honey in good shape for market, and could be reliable at all times, or only nine in ten, would, to me at least, be worth hundreds of dollars."

Bottling Insects.—During an insect discussion at the New-York Fruit Growers Meeting, Dr. Trimble protested against the method of wholesale destruction practised by some persons who hang open bottles of sweetened water in fruit trees to entrap insects. His argument was, that "in so doing one destroyed more friends than enemies; we should rather encourage the increase of the clear-winged fly, the lady bug, etc., as these prey upon destructive insects.

Trap for Wire Worms.—A correspondent of the London Gardeners' Chronicle was successful in ridding a grape vine border of wire worms by the following plan; Potatoes were cut in slices half an inch thick, and inserted at short intervals along the border, about two inches below the surface. A small stick was placed to show the locality of each piece. The potatoes were regularly inspected every morning for about three weeks, and large numbers of worms were daily found in them. In this way the ground was ultimately cleaned of these destructive pests.

Scale on Apple Trees.—"G.," of St. Paul, Minn., refering to the bark-louse question in the June *Agriculturist*, says he had a tree growing on poor soil which was completely covered with scale. He made a strong lye from wood ashes, and applied it with a stiff wisp broom. The first rain washed it clear of scale, the leaves came out healthy, and it bore its first crop of fruit that year. He has since used lye with like good success, without injuring the trees.

Bean Weevil.—C. R. Thomas, Warwick Co., Ind., and others. We have had no experience with this insect, but suppose that it may be destroyed like the pea-bug, by scalding the seed before planting.

Potato Bug.—S. J. Noble, Dorchester Co., Md., says that the most effectual way to destroy the potato bug "is to take a tin bucket or basin in one hand, and the potato top in the other; shake the bugs into the bucket or basin and you have got them to burn or bury at your pleasure. I have captured gallons of them in this way." We do not know to which particular bug Mr. N. refers, but his advice is sensible as regards any of the many species which infest the potato. The only way in which we can get rid of insects, aside from the help of birds and parasites, is actual destruction. There are no specifics or particular remedies for each insect. We must study their habits and work for their destruction in the stages of egg, larva, and perfect insect. By destroying the moth, butterfly, or beetle, we prevent their multiplication, but as these are the forms in which insects *appear* to be most harmless, we mainly direct our efforts toward the larva. Destroy the perfect insect, and the destructive larva will cease.

The Chess Question.—D. Noble, Shawanaw Co., Wis., thinks that we do wrong to decline discussion on this subject. We might fill our pages with arguments on either side of this or any other public fallacy. We are willing to admit even, that the moon is made of green cheese, if we can see an authentic specimen. If he has an example of the transmutation of one grain into another we will not even decide on it ourselves, but submit it to the first botanists of the country, and if they say that the specimen is partly wheat, or any other grain, and partly chess we will give it up. Send the specimens.

Sweet Potato Tops for Fodder.—K. Horner, Wayne Co., Mich., asks if sweet potato tops are suitable food for animals. He has had good success in raising the crop in his locality and finds that cows and hogs are fond of the tops. We have always let the tops remain until the frost killed them, and have had no experience in feeding. The sweet potato belongs to the same family as the jalap, and we should expect to find some cathartic property in the uncooked plants. Mr. H's experience is, that the cattle and hogs eat them without injury. We shall be glad to hear from others who have tried the experiment. Where the potatoes are dug before frost it may be desirable to feed out the tops, if it can be done with safety.

Pond Mud.—James Floyd, Chenango Co., N. Y., wishes to know, whether the cleanings of the canal every spring, will answer for a top-dressing of his meadow? We have often noticed such heaps on the canal bank, covered in Summer with a rank growth of Canada thistles, dock, etc. The best way to manage such mud is to cart it home, spread it in layers from four to six inches thick, and cover each layer with a coat of lime. Let the heap lie a few months, and then shovel it all together. After laying a short time longer, it may be spread on meadows, pastures or anywhere. The lime will kill most of the foul seeds, and decompose the vegetable and animal matter in the mud.

How to make a Manure Heap.—Wm. Polly, Dark Co., O., writes to the *Agriculturist* that he has an old straw heap, trodden by cattle last Winter, a few loads of manure from the horse stable, a few ashes, and that he can obtain plenty of lime. He has also a good shed under which to make the heap, and asks how to proceed. Place a layer of straw a foot thick, then two inches of ashes or lime, next two inches of muck, or rich soil. Add six inches of horse manure, more straw and ashes or lime, then earth and manure as before, and when the pile is complete, cover the whole with two or three inches of muck or earth. Water the heap moderatly and every two weeks fork the whole over, until the ingredients are thoroughly mixed. In the mean time add to the pile all the house slops, the contents of the pig-pen and privy. In two months or less there will be a valuable compost heap ready for use next Fall.

Disinfectants.—E. H. Morton, Middlesex Co., N. J. To deodorize offensive substances, such as the contents of privies, sink drains, &c., so as to use the materials afterward for compost, is an important matter. When powdered charcoal is abundant, nothing is better, putting it in layer after layer. But when this is scarce, dried peat or muck will answer nearly as well. If, however, the decaying substances still emit offensive odors, powdered lime may be added. In ordinary cases, coal ashes, tan-bark, saw-dust, or dry soil will absorb refuse liquids and turn them into useful fertilizers. It is essential that the absorbent be well dried.

Out Door Whitewash.—E. J. Hammond, Harford Co., Md. We know no better recipe for preparing whitewash for fences and other wood work exposed to the weather, than the following, which was published in the *Agriculturist* several years since. Mix unslacked lime with about as much water as will be required in use, and add about half a pound of tallow for

each peck of lime. As the lime slakes, the heat will melt the tallow, which is to be thoroughly stirred, the stirring to be repeated while using, if any of the grease rises to the surface. Spoiled lard or other grease may be used in place of tallow.

Sowing Grass with Buckwheat.—A. L. Fowler, Litchfield Co., Conn. It would not be advisable to sow grass seed with buckwheat. The latter would shade the ground too much for the grass to get a good start. Better sow with buckwheat alone, and seed down with rye next Fall. Or, if it be desirable to start the grass at once, try a crop of millet, sowing it rather thinly; this will give the grass as good chance as winter grain, or oats.

Shelter Stacks.—"D. K. W." recommends that where hay must be stacked and fed out without removing it to the barn, the stacks be built in the form of sheds, to give shelter to cattle which are to consume the hay in winter. He says it can readily be done by making a rough frame of timber or rails, on which the hay is to be stored. We consider the plan objectionable, because the enclosure would be liable to become filthy without great care; there would be insufficient ventilation, and the odors arising from below would make the hay unpalatable and unwholesome. If the hay cannot be drawn to the barn or sheds and fed out there, better erect temporary shelters near the stack. No one but a shiftless farmer would think of letting cattle remain without shelter, and lie around the stack all Winter. A few uprights of poles, with a roof of rails, and a covering of straw or poor hay would amply repay for the trouble of building, if nothing better could be had.

The Peeler Plow.—To many inquirers. This affair first came up in an offensive manner. Mr. Peeler, said to be a Southern clergymen, pressed it upon manufacturers with the specious plea that the Bishops and clergy of the largest and most influential Church in the country would all act as friends, and indirectly, if not directly, as agents, partly from sympathy with a brother minister, and more especially because he was making immense donations of the (prospective) profits to the educational institutions of that church. But notwithstanding this, we gave the plow a somewhat careful examination, and found it to be a rather rude conglomeration. The main idea was, to have a variety of mold-boards, land-sides, points, etc., all to be attached to the same beam, as wanted. The arrangement, if well executed, might answer for light soil, but the attachments were not firm enough to stand the rough usage of heavy or stony land. Deeming it of little practical utility, and disapproving of the effort to turn religion to money making account in so direct a manner, we passed the thing over in silence, and only make this note now in response to a great number of questions that have accumulated during some months past. Mr. Peeler is probably now among the rebels; happily he carried little with him from Northern manufacturers, who were somewhat taken with his promise of ministerial agency. If any of the Institutions of Learning have received a first instalment upon the splendid subscriptions made by him, we shall be happy to hear of the fact.

Manuring with Brains.—If any of our readers happen in the vicinity of Ellenville, Wawarsing Township, Ulster Co., N. Y., we advise them to visit the farm of Mr. Joseph H. Tuttle, and see what the application of intelligent thought, of "brain manure" as our friend 'Squire Bunker would say, will do for a farm. They will see stony, hilly land, with wet bogs between the hills, converted into a fertile, paying farm. Draining on the side hills arrests the surplus water, and where only bog grass would grow, and where cattle would mire out of sight, may now be seen luxuriant meadows of Timothy. There is a story in the neighborhood to the effect, that one of these wet spots, restored by draining, and liberally limed and manured, yielded last year about 15 tuns of good hay on 2¼ acres! Every year's crop will doubtless pay for the cost of the drainage. Mr. T. has been for many years a careful reader of the *Agriculturist*, and has practised upon the hints obtained from its pages—with profit directly to himself, and indirectly, through his example, to his neighbors. He endorses the teachings of the *Agriculturist* almost as a whole, draining and all, but takes exception to our advice in regard to laying stone-drains with side stones and cover. He tried these, and they failed. He now drains wholly by setting the stones on edge in the form of an inverted v, thus Λ, with cobble stones against them to hold them in place. We examined the drains June 9th, and though in the middle of a severe drouth, a stream of pure water flowed from the different drains, showing the necessity of their construction, even on hill sides which would usually be thought the last land to need draining. Mr. Tuttle raises roots for his stock, cuts all the feed, and steams it. He furnishes dumping ground for the scavengers, or night soil gatherers of the village, and pays them liberally for depositing this material upon his farm, where it is mixed with muck, and converted into a valuable home made poudrette. We had not time in our brief chance visit to note down the items of cost, etc. Will Mr. T. give our readers some account of his mode of raising, storing, and feeding roots, straw food, etc. We know from his neighbors, that he makes his farm *pay*, and others would like the particulars, as to *how* it is done.

Apparatus for Drying Fruit.—John Kostenbader, Lawrence Co., Indiana, A simple cheap apparatus by which fruit could be dried expeditiously and well, would undoubtedly be very useful, and profitable where the operation is to be conducted on a large scale. Its patentability would depend upon its novelty and superiority over methods at present used.

To Draw a Spike.—Chauncy Lynch, Rutland Co., Vt., writes to the *Agriculturist*, that a tight spike may be withdrawn from the wood, by holding a sledge hammer, or the head of an ax, against one side of the projecting part, and striking upon the opposite side with a hammer. The blow should be an upward one against the under side of the spike head, if practicable.

Cabbage Puller.—M. Scougale, Mich., says in reference to the cabbage puller, figured in the March *Agriculturist*: "I think a hook made from a small sapling is as good as any. The pole should be about 5 feet long, with a limb about 5 or 6 inches from the end. This is more easily made than the other and is just as good."

Accounts with the Farm.—H. Baker, Mercer Co., N. J., suggests that farmers should keep a regular account of everything sold from the farm. He gives the proceeds from six cows for one year as follows: Butter 490 lbs. $108.08; calves sold $26.83; Alderney calf raised, $25. Total $159.91. Besides the butter sold, the family table was well supplied. If in addition to a record of receipts, there be also kept an account of expenses, the showing will be more valuable. It is desirable to know both profit and loss on all farm operations.

To prevent Chickens from Scratching.—G. W. Kitterman, Wapello Co., Iowa, writes that all trouble may be prevented by tying a forked stick 4 or 5 inches long upon each leg. "Have the stick long enough, so that there will be more weight on the hind part than on the fore part, and when the chickens go to scratch they will find themselves walking away, if the sticks are heavy enough behind."

Soaking Seeds.—The Chinese seldom sow a crop without having previously soaked their seeds in diluted manure, keeping them there even until they begin to sprout. They hold that this not only gives the plants an early and vigorous start, but preserves the seed from worms or birds. The practical results of Chinese agriculture are too important for us to speak of them with contempt. Would it not be well for us to use some safe steeps for our corn, squashes, melons, etc., as a general rule, and not as an exception?

Pruning Trees to Good Form.—Too little attention is usually given to the formation of a good head, in pruning fruit trees. Begin as soon as the tree is planted, and use only the pruning knife. Never allow a tree to become "crotched," as it will be liable to split down. Rather encourage several branches upon different sides to preserve the balance. It is easy to start a branch to fill a vacancy, by cutting back a limb close to a bud at the point where the new one is required.

Summer Queen Apple.—Dr. Ward, of Newark, N. J., spoke highly of this apple at a late Fruit Growers' Meeting. He kept an account of the sales from two trees one season, and they footed up $60, selling from $2.00 to $2.50 per bushel. Being a large showy fruit, and ripening by the middle of August, it commands a ready sale at high prices.

Winter Mulching Peach Trees.—M. Gookins, Fountain Co., Ind., writes to the *Agriculturist*, that for several years past he has each Fall placed around his peach trees a layer of half decayed straw about six inches thick, and extending three feet each way from the trunks. This was done to prevent the swelling of the buds during temporary warm weather toward Spring, by which much fruit is annually destroyed. Recently the peach trees in his neighborhood have been affected by the "Curl," a disease or blight causing the leaves to shrivel and the trees to die; but those which he has mulched as described above, have remained entirely free from this ailment. The cause of the "Curl" is not well understood, but the prevention here indicated is worth trying elsewhere.

Natural Peach Trees not Healthiest.—Thos. Roberts Jr., of Monmouth Co., N. J., the heart of the peach growing region, says that his experience, and that of others in the neighborhood, is, that natural peach trees are more subject to the "yellows" than budded trees. He planted both side by side and the worked trees were every way the healthiest.

Curl on the Peach.—P. A. Bettens, Florence, Ind. The specimens of peach leaves were affected by the Curl, a common disease in both this country and Europe. Some writers ascribe it to the puncture of a minute insect, while others consider it to be due to sudden changes of temperature, and most liable to appear when warm and damp days are succeeded by a comparatively cold spell. We have made several examinations and have never been able to find any insects. It is a subject upon which there seems to be very few accurate observations, and we have never known any remedy to be suggested. The diseased leaves soon fall and are succeeded by a new growth. If this is often repeated the vigor of the trees will be impaired.

Cutting Buckthorn Hedges.—B. Kimball, Kennebec Co., Me. Your hedge set out last Fall with plants fourteen inches high, should have been cut back in the Spring to six inches, so as to form a thick mass at the bottom. Cut back to ten inches now.

Chinese Chrysanthemums.—Is it known to every one that these plants can be raised from cuttings about as easily as willows? That they bloom abundantly and continue at it from November to Christmas? That after a short rest, if the tops are cut off, new shoots will start up from the roots and bloom again in houses in March? And then, what a variety of colors and shades! Everybody should grow chrysanthemums.

Crocus—When Planted.—Media, Wayne Co., Pa. The bulbs should be planted in September or October, at which season they are for sale at seed stores.

Camellia.—"E. F. S.," Canajoharie, N. Y. The Camellia will not hold its buds in a hot, dry room. Try it in a room where there is no fire, and no freezing.

Lemon Tree.—Mrs. G. B. W., Meadville, Pa. The tree would probably bear in time, but will do so much earlier, and bear better fruit, if budded or grafted. The best way is to send it to some experienced florist.

Mulching Stawberries.—Irene Cole, Ind. Our best fruit growers put on a mulch of long straw in the Fall, opening it over the crowns of the plants in the spring. We have never heard of any injury from mice, resulting from this treatment. Take up Tiger Flowers and Tuberoses after frost kills the leaves.

Books on Fruit.—David Templeton, Crawford Co., Ill. A good work on Fruit Culture is "Barry's Fruit Garden"; the best *descriptive* work on Fruits is "Downing's Fruit and Fruit Trees of America." Any one largely interested in Fruit Culture should have both these works. We send them (post paid) at $1.50 and $2.

Plants for a Name.—I. L. Herricks, St. Josepha Co., Mich. The leaves sent here are not the Silver Maple, but the Abele or White Poplar (*Populus alba*). It is a rapidly growing tree and a very showy one from the strong contrast between the green upper surface and white underside of its leaves, but it is a great nuisance on account of the numerous suckers it throws up from the root. Some of the small parks in New-York have the grass quite ruined by the abundance of these suckers. In streets, where the pavements keep them down, this is not so strong an objection....F. C. Campbell, Pulaski Co., Ind. The plant sent is the American Columbine (*Aquilegia Canadensis*). It is very common, and hence we rarely see it in gardens, yet it is much more graceful than any of the imported species....Irene Cole, Ind. The specimen is the "Star of Bethlehem" (*Ornithogalum umbellatum*). It is sometimes cultivated in old gardens, but in many of the Eastern states it has become naturalized and grows wild. The true Snow Drop is a very different thing.

Gloves for Chapped Hands.—Buckskin gloves do very well in dry weather, but are poor things when wet. India-rubber gloves are used to some extent, and have the merit of being waterproof.

Brooklyn Horticultural Association. We regret that the Summer Exhibition of this heretofore enterprising Association must be regarded as a failure. The show of flowers and fruit was not larger than should be looked for in a town of five thousand inhabitants, while it is well known that the public and private Horticultural establishments of Brooklyn are excelled by few if any cities in the Union. There is either a great lack of public spirit on the part of cultivators, or culpable mismanagement by the officers of the Association. Wherever the fault lies, it should be corrected at once. The public taste, no less than the interest of horticulturists, demands that there should be a yearly exhibition of the progress made in this most delightful art. We trust that when the time for the Fall meeting arrives, it will be found that the present difficulties were only temporary, and that the Society may resume the position it was attaining, as one of the most successful institutions of the kind in this country.

Watering Growing Fruit.—E. D. Wisner, Monmouth Co., N. J., writes to the *Agriculturist* that fruit can be greatly improved when near ripening, by frequent and copious watering of the plants, unless there be abundance of rain. Where extra specimens are desired for exhibition or otherwise, they may be stimulated to larger growth by *weak* liquid manure. The watering should be done late in the afternoon, and mulching with straw, or freshly cut grass, tan bark, or other material, will aid in keeping the ground moist, and prevent baking during hot sunshine.

Apples Preserved in Sand.—John Firth, Center Co., Pa., recently sent to the office of the *Agriculturist*, (express paid,) a box of beautiful apples, whose natural period of ripening is in December and January. They were perfectly sound, and their flavor unimpaired. They are part of six barrels which were kept equally well, not twenty of the whole being unsound. They were picked Sept. 1st and 2nd, kept upon the floor of a room in the house about two weeks, and then packed in barrels with dry sand obtained from an iron foundry, which had been used in casting, and from which all vegetable matter had been burnt out. They were placed so that no two apples came in contact, each being entirely surrounded by the sand. The whole were then stored in the cellar. Mr. Firth thinks the remainder of the fruit will keep in good condition until next September. It would be easy to prepare sand for this purpose by burning, and the experiment is worth further trial.

The Best Turnip for Winter.—Charles A. Foster, Bergen Co., N. J. The Long White French Turnip is the best we know of for winter use on the table, and equal we think to any for feeding out. Its keeping qualities are unsurpassed. The general crop may be sown from June 15th to the middle of July.

Benefits of Frequent Plowing.—John T. Smith, Harrison Co., Ind., in a communication to the *Agriculturist*, says that throughout that section corn is generally backward; but that he has observed those fields planted early and plowed thoroughly through wet as well as dry times, are invariably good. The soil on the Ohio Bottom lands admits of this, and plowing before the ground is dry, prevents its baking and becoming cloddy. The average depth of plowing he says is 9 to 12 inches, and the yield of corn about 80 bushels per acre. Observing cultivators will "put that and that together."

Sulphuric Acid for Stumps.—Ebenezer Walker, Saratoga Co., N. Y. We have seen an item going the rounds of the papers saying that a stump might be quickly rotted by boring a hole in the top and filling it with sulphuric acid (oil of vitrol,) but it would probably be a failure. The acid would cause the parts with which it came into immediate contact, to decay rapidly, but it would not be likely to affect the roots by which the stump is anchored to the ground. A good stump-puller is more certain in its operation.

Soil for White Clover.—Alfred L. Waite, Potter Co., Pa. White clover thrives best on a soil containing a large portion of clay, and abundance of vegetable matter. It is abundant throughout the Northern and Middle States, where it makes the best of pasture, and is of great value for furnishing supplies to bees. The honey made from the blossoms is of the very best quality. Seed of the white clover is usually kept on sale at all the Agricultural warehouses and seed stores.

Honey for Market.—William S. Twining, Greene Co., N. Y. Boxes with glass sides in which the bees have stored honey are the best packages in which to send it to market. The purchaser can see the quality of the article, and if white and clear, its inviting look gives it a ready sale at good prices.

Tomatoes in Pots.—Mrs. E. M. Wendall, Marquette Co., Wis. Tomatoes grown in pots where their roots have not room to extend freely, are dwarfed in their growth, and forced into earlier bloom and bearing. This method may be practised where a limited supply of extra early fruit is wanted, but it would not be profitable for a general crop.

Fig Trees—Where to Get.—L. C. Derby, Perry Co., Ill. Such extensive nurserymen as Ellwanger & Barry of Rochester, and Parsons & Co., Flushing, N. Y., and several others, raise fig trees for sale.

Keeping Wood Ashes.—D. M. Fisher, Blair Co., Pa. Wood ashes should be kept nearly dry; any water draining off, would cause a loss of potash.

An Excellent and Timely Machine.—We are glad to know that the improved flax brake made by Sanford and Mallory in this city is meeting with public favor, particularly as those parties who have put it to practical use declare it to be superior to any invention heretofore made for the same purpose. The importance of a machine by which the flax straw, now wasted, may be turned to account to supply the deficiency of cotton, can hardly be overestimated. On the article of paper alone there would be saved millions of dollars to publishers and to the community, by the general use of such a machine to work up tangled flax into paper stock. The proprietors are manufacturing small machines to be run by hand, which may be desirable in many localities. As their orders are already ahead of the supply, parties needing one of these machines should make early application. Full particulars are given in their advertisement on another page in this number.

Home Made Brooms.—George T. Weston, Rensselaer Co., N. Y. A better article of brooms can usually be had from those who make a business of the manufacture, and a ready market for broom corn can be found at such establishments. Full directions for making brooms, with ample illustrations, were published in the *Agriculturist*, Vol. xix. page 13, (January No.)

Sewing Machine Humbug.—A. J. Duncan and others. This matter has been referred to in the *Agriculturist*, but a further word of caution is not superfluous, as we notice certain parties are sending out great numbers of circulars to persons unknown to them, asking them to become agents, but requiring them first to send money to pay for a sample machine. Reliable concerns do not transact business in this manner. When they want agents, they take pains to know their men. It is of little use to correspond with such establishments. Let their circulars be turned to account as waste paper.

Sewing Machine.—"Subscriber." The "United States" sewing machine uses a *single* thread.

How to Make Money.—Irving Sead, Oconto Co., Wis., says this can be done by subscribing for the *American Agriculturist*, and gives the following statement in proof. "Subscribed in October, and received one map worth 25 cents, two extra numbers 20 cents, four papers of seed 20 cents: procured one new subscriber and received grape vine 50 cents; making a total of $1 15, or 15 cents clear gain in addition to the paper for a year for nothing!" A pretty good showing truly, but not more than the facts will warrant, as thousands more will testify.

Advertising Doctors.—Notwithstanding all we have written on this subject, we receive frequent letters of inquiry about one or another of the hundred Doctors, who advertise themselves as having wonderful skill in curing specific disease—of the lungs, of the eyes, of the ears, and of every other human organ, or part of the body. We can not answer all these letters in detail, but will say, in general, that nearly all, if not all of these medical advertisers are quacks. We do not know of one of them to whose care, or prescriptions, or medicines we would entrust a friend. It is exceedingly easy to get up recommendations, and cases of extraordinary cures. There are certain instruments, or mechanical contrivances, such as artificial limbs, etc., which are properly advertised, where their utility is obvious. But not so with secret remedies, and the professed extraordinary skill of self-styled doctors.

"Head Quarters of the Pantarchy."—A "Friend" sent us sometime since a circular and letter dated as above, which had been directed to him by one "David Hoyle, Chief of the Bureau," and we are asked to explain it. We have brooded over the said letter and circular a long time, and have at last hit upon the explanation as clear as—mud. Here it is: Some abnormalationally inde-pre-disposed amatorissimus d'argent et d'or, wishing to get money without working for it, has set into most violent operation his twistificationed cerebellum aut cerebrum, and hatched out a hexagonal hebdominal mostest incomprehensible "Grand Planetary Governmental Organization, based upon the rapid approach of the Millenium, through the Marriage of Science with Religion, ultimated in Practical Life, etc., etc.," and "*in each case a postage stamp must be enclosed, in addition* to any contribution for the support of the Bureau."—The explanation is as clear as the "circular," and we don't ask a postage stamp for giving it.

Those Who Have Poor Teeth are to be pitied, whether the defects are the result of imprudence, or are inherited, as is so often the case. Poor teeth are not only the source of pain and annoyance, but where defective "grinders" or sore teeth prevent thorough mastication of food, the stomach is over-taxed, and indigestion and other diseases are pretty sure to follow. The Dentists are doing much to remedy these evils, and they could do more if people generally better understood the nature of the teeth, and the operations upon them. Skillful, honest dentists prefer to meet with intelligent patients. The above was suggested by reading a pamphlet on the subject by Dr. John Allen, of 22 Bond Street, N. Y. City, in which he gives some valuable information. The pamphlet was prepared with special reference to Dr. A's improved process of inserting teeth, but that does not detract from the value of the information given, and as the pamphlet is furnished *free* to all applicants, we advise those having poor teeth to send for a copy. We repeat what we stated last year, viz., that teeth inserted by the method of Dr. Allen, exceed all others we have ever seen, not only in beauty and natural appearance, but in effectiveness. We know of one set inserted by him that a thousand dollars would not buy.

Thanks to the Ladies who have contributed so many valuable recipes, items, and suggestions for publication in the Household Department. From the large number received, those are selected which are thought to be of the greatest general interest, and none should feel slighted because their communications do not appear. There are yet thousands of hints which might save time and money to many families, if the good housekeepers who read the *Agriculturist* would contribute them for the general benefit. Please choose your own subjects, write plainly and briefly, and receive the thanks of the community and of the Editors.

Stenographic Books.—G. O. Southwick, Tolland Co., Conn. Towndrow's work was formerly considered as good as any stenographic book, but it is now almost entirely superseded by Pitman's Phonography. Graham's Hand-Book of Phonography, published in this City at $1.50, is a good American work.

Exhibition Tables at the Office of the American Agriculturist.

The following articles have been placed upon our tables since our last report.

FRUITS, ETC.—*Strawberries*:—Hovey's Seedling in pots, G. Nichol, Richmond Co., N. Y.....Triomphe de Gand, superb specimens, C. S. Pell, N. Y. Orphan Asylum..... Burgess' Seedlings, viz., Garibaldi, Gen. Scott and Gen. Lyon; White Pine Apple, Lennig's White and Albion, Wm. F. Heins, Woodstock, N. Y.....Gen. Scott, Wm. A. Burgess, Glen Cove, L. I....Chorlton's Prolific, Wm. Chorlton, Staten Island, N. Y....Trollope's Victoria, very fine, Robert Bonner, New-York....Union Seedling, superior, S. R. Trembley, Bergen Point, N. J....Triomphe de Gand, 5¼ inches in circumference, J. Corbett, Morrisania, N. Y....Cranberry Pippin Apples, very fine, R. Benner, Astoria, N. Y....Isabella Grapes, well preserved, Samuel Mitchell, Cameron Mills, N. Y....*Cucumbers*: Lord Kenyon's favorite, very fine, Anthony Boyle, gardner to W. P. Wright, Esq., Weehawken, N. J ...Walker's Rambler, Mr. Erwood, Deer Park, L. I.

FLOWERS.—Geraniums, Pinks, Pansies, and new Blotched Petunias, O. Judd, Flushing, N. Y....Clematis Sophie, beautiful blooms, R. J. Dodge, McClair, N. Y.... Fuchsias, Cinerarias, Amaryllis, etc., C. S. Pell, N. Y. Orphan Asylum ...Cut Flowers, A. S. Fuller, Brooklyn Nurseries, N. Y....Double Apple Blossom on present years' growth of wood, Samuel Havens, Westchester, Co., N. Y....Wax Flowers, beautifully executed, Miss Van Bergh, 1143 Broadway, N. Y.

MISCELLANEOUS.—Flax Cotton, Joshua Short, & Co., Little Falls, N. Y....Maple Sugar, very superior quality. ....Sample of White Poland Oats, four weeks from planting, very fine, George Lawes, Somerville N. ....Model of New Washing Machine, Wm. M. Doty, New York.

The Crop Prospects.

We present herewith a copy of the synopsis of the reports, as furnished us by the Agricultural Department at Washington. The plan of presenting the results is very simple and easily understood after a little study. A single figure presents the result of hundreds or even thousands of observations. Thus, for example, in the third column of figures against Iowa, the figure 12 tells us that the reports from fifty or a hundred persons in as many localities in that State, show, that the area of Spring Wheat sown in Iowa this year is two-tenths, or twenty per cent. greater than in 1862; while the figure 11 in the next column indicates that at the date of the reports the appearance of the crop was one-tenth, or ten per cent., better than the average of other years. With this explanation in mind, each figure in the whole table will become significant, and especially the general average at the bottom, for the whole country. The value of these tables will of course mainly depend upon the number of these reports, upon the good judgment and honesty of the reporters, upon the care in compiling them, and upon the promptness in publishing the results obtained.

Beyond all question, the Agricultural Department can confer a great benefit upon the entire country by an extended and properly executed labor of this kind. Millions of persons, farmers, grain dealers, the mercantile community, and indeed the whole country will, during the next three or four months, be anxious to know what are the condition and prospects of the growing crops generally. Farmers want to know whether the crop is to be an average one, or below or above an average, for the prospective prices will be materially affected thereby. If crops are poor, farmers will be less able to buy merchandise and manufactures, and less able to purchase freely, or pay up for past purchases from importers and manufacturers; there will be less grain to export and exchange, and indeed the whole fabric of trade and commerce, and even the National Finances, will be affected. And just the contrary result will be produced by unusually good crops; for, after all, the prosperity of the country depends mainly upon the absolute wealth derived directly from the soil. Hitherto we have been without any positive reliable information, except the reports gathered on the same plan last year by the *Agriculturist* office. We hope the new Department of Agriculture will spare no effort or expense to carry out, on an extended, comprehensive scale, the system of gathering these important statistics. Let them be so carefully collected and collated as to be absolutely reliable, and we can promise both a hearty cooperation, and the grateful appreciation of the entire country—not only of farmers but of all other classes. Comprehensive, accurate, and prompt reports of this kind, collected at the expense of a few thousands, or tens of thousands of dollars, as the case may be, will save many millions.

Of the Crop Prospects Generally, aside from what is contained in the Commissioner's report for May, we can not give as much information as would be desirable. The reports from the country at large, gathered from our own correspondence, and from some twelve hundred Exchanges, are very various. The general view is a cheerful one, but there are too many hints of late Spring, rain in some places, and severe drouth in others, to warrant us in saying that the crop prospects are the most favorable up to June 19th. In the immediate vicinity of New York, the long absence of rain has materially damaged the hay crop, and lessened the growth of most other crops. Favorable weather hereafter may bring forward the cereals, for the rains we have just had, can not restore the stunted grass. The general reports are favorable for fruit. Our own personal observation, extending a hundred miles into Southern New-York, is that a comparatively small amount of fruit has set this year. The trees were everywhere full of blossoms, but a large proportion of them blasted. A similar state of things is reported from some other localities, while in others there has been abundance of rain, and not too much.

The Reports from Europe are almost as varied as from this country. Drouth has prevailed in many parts of Great Britain and the Continent, so much so as to tone down the exuberant feelings manifested about the first of May. The news by the last steamer is more cheerful than that received during the previous three weeks.

CROP REPORTS FOR MAY, 1863.

Gathered by the United States Agricultural Bureau.

	WINTER WHEAT.		SPRING WHEAT.		RYE.		CORN.		OATS.		POTATOES		SORGUM.		COTTON.	
	Average area sown compared with 1862.	Appearance of crop at this date.	Average area sown compared with 1862.	Appearance of crop at this date.	Average area sown compared with 1862.	Appearance of crop at this date.	Average area planted compared with 1862.	Appearance of crop at this date.	Average area sown compared with 1862.	Appearance of crop at this date.	Average area planted compared with 1862.	Appearance of crop at this date.	Average area planted compared with 1862.	Appearance of crop at this date.	Average area planted compared with 1862.	Appearance of crop at this date.
Connecticut	10	10	10	10	10	10	10	11	10	10	10	10	—	—	—	—
Delaware	9	9	8	9	11	11	12	9	12	8	12	9	8	12	15	12
Illinois	12	9	20	9	9	10	11	9	10	9	11	10	16	10	79	10
Indiana	10	11	10	10	10	10	10	10	9	10	11	10	15	10	20	10
Iowa	17	10	12	11	12	10	12	11	13	11	10	10	14	11	—	—
Kansas	18	12	6	11	15	10	10	11	10	10	12	12	13	10	83	10
Kentucky	9	11	—	—	9	9	8	10	8	9	9	10	15	10	27	12
Maine	—	—	11	10	10	10	9	10	9	10	11	10	—	—	—	—
Maryland	10	10	—	—	10	10	10	8	9	5	11	10	16	10	20	10
Massachusetts	10	9	11	10	11	10	10	9	9	10	10	10	—	—	—	—
Michigan	11	10	10	10	10	10	10	10	11	10	11	10	25	10	50	10
Minnesota	13	11	12	11	10	10	13	10	13	10	11	10	19	10	30	10
Missouri	12	10	10	8	11	11	11	10	9	8	10	10	11	10	15	10
New Hampshire	10	8	11	10	10	10	9	10	12	10	11	10	—	—	—	—
New Jersey	11	11	10	10	10	10	11	10	9	10	10	10	12	10	—	—
New York	11	10	10	10	10	9	10	10	11	10	11	10	11	11	—	—
Ohio	9	8	10	10	10	9	11	10	10	9	11	10	14	10	15	10
Pennsylvania	10	10	8	10	9	9	11	9	10	10	11	9	23	9	60	10
Rhode Island	10	10	10	10	10	10	10	10	9	10	10	10	—	—	—	—
Vermont	11	9	10	10	10	10	10	11	9	11	9	10	—	—	—	—
Wisconsin	12	10	12	11	11	10	11	10	12	11	11	10	28	10	—	—
Nebraska Territory	15	8	11	8	8	10	8	10	10	8	10	10	9	11	—	—
General Average	11	9½	10	10	10½	10	10½	9½	10⅓	9½	11	10	15½	10¼	37	10½

The above table presents a very short abstract of the returns to the Agricultural Department, of the amount and condition of the crops in May, 1863. A fuller report, embracing other matter, will shortly be issued and sent to our correspondents and the press generally.——This table can readily be understood by all. The number 10 represents an average of the crops, both as to their *amount* compared with the crops of 1862, and their *appearance* in May, 1863. A number above or below 10, represents as many tenths as it is above or below it. Thus 8 is two-tenths below an average, and 14 is four-tenths above it.——The table is prepared by first taking an average from the returns of each County, and from these an average of each State, as published in the table.

ISAAC NEWTON,
Commissioner.

WASHINGTON, D. C., June 15, 1863.

Millet Seed Injurious to Horses.

In the April *Agriculturist* "Basket Items," you say, that if Hungarian grass is fed with the straw it is generally thought to be safe. It is so far from safe, so really *unsafe*, I must write a word. Last Fall three horses were killed by it at one time from only once feeding. While waiting for a threshing machine to be set, an armful of it was given to them, and before another night three were dead and others made sick. I came very near losing a nice mare by feeding it one Winter. Four years ago almost every neighbor of mine used it for horses, now I know of not one that dare feed it. I could name a dozen horses in this vicinity killed, or nearly so, by using it. We never thresh it except for seed for sowing. Most here think that it is the seed that injures, and that when cut before the seed fills it is safe. Is it not the hull of the seed that irritates the coats of the stomach and intestines and thus causes disease? WM. B. REED.

[REMARKS.—So many have reported cases similar to the above, that it would seem almost certain that for *some* reason, millet (Hungarian grass) seed can not be safely fed to horses. At any rate the *safe* plan on which all appear to be agreed is, to cut the grass for fodder before the seed is ripened, when it is to be fed to horses. For sheep or other stock, for all we have heard to the contrary, it appears to be desirable food.]

Reasons for Tillage.

Does any one inquire the reason why we plow, and harrow, and dig and hoe? A very sensible inquiry. We do these things partly in order to bring the ground into a proper mechanical condition for receiving seeds, and for growing plants. By the long continued falling of rains, the soil becomes compact and hard. So, also, the covering of a heavy body of snow in Winter brings the ground into a sodden and firmer state. This is the case especially on clayey soils. Run the plow, or work the spade through these compacted masses of earth, and it will render them porous, easy to till with the hoe, and prepared to receive whatever seeds we may wish to grow.

Then, again, tillage benefits the soil chemically. It opens the pores, so that it imbibes those fertilizing elements which the air contains. The atmosphere is a storehouse of carbonic acid and ammonia, but the earth can not be enriched by them largely, until its bosom is opened by cultivation. The soil, too, contains mineral and animal substances in a state of partial decomposition, which need the agency of the atmosphere to resolve them into good food for growing plants. Jethro Tull was no mere theorist.

So in reference to needful moisture. When the soil is well disintegrated, and the air enabled to circulate freely among its particles, there will be deposited a greater amount of water than in stiff, unbroken ground. And this moisture will be present just in proportion to the depth and thoroughness of the tillage. Hence it comes to pass that subsoiled lands seldom, if ever, suffer in the severest drouths. The air descending to the roots of plants, moisture fol-

lows with it, carrying along ammonia to feed them with food and give them greater vigor. It is sometimes objected that very deep plowing injures a crop, by bringing up to the surface hard cold clay, which is hurtful to vegetation. Very true. Such plowing is hurtful, and we do not recommend it. The true method is to deepen the soil gradually, setting the plow point only an inch or two deeper every year. This will accomplish the end in a short time, and do no harm. The true method of subsoiling is to run the common plow first, then follow its track with the subsoiler, breaking up the lower stratum, but not lifting it out of its place. Or, as one says, "let it travel under the surface soil, as a mole might pass along without turning it over." And so in trenching land for gardening, the true way is, not to throw the bottom soil on the top in any considerable quantity, but to break up the lower stratum, mixing manure with it if convenient, and then returning it to its original place, cover it with surface soil.

Doubtless, many a farm which its owner considers nearly worn out, might be rendered fertile by deep plowing. The surface has been scratched over for many years, and this is indeed exhausted; yet underneath this, lie rich stores of productiveness as yet untouched. Not a few northern farmers have gone southward within ten years past, and bought up at a low price worn out land, and by good, honest plowing and subsequent tillage, have realized good crops for several years, and that too, without enriching with additional manure.

In England, six and seven inches in depth is considered fair and reasonable plowing, and subsoil work goes down eighteen and twenty inches. With us, the average depth does not exceed four or five inches, and subsoiling does not get deeper generally than twelve to fifteen inches. There is room for improvement here; and in due time we believe it will be made.

The Harvest Field.

Harvest time, though a season of severe toil, is everywhere welcomed. Most other operations on the farm have reference to the somewhat distant future, when a return for labor shall be realized; but now, results are to be gathered. Each sheaf of ripened grain represents hours spent in plowing, seeding, and cultivating; and the swollen kernels remind the husbandman of the beaded drops of sweat with which he has often moistened the field. To the imaginative mind there are few more suggestive pictures than fields of grain white to the harvest. Each waving stalk is a rod of power, more potent than the magician's wand. It bears the elements without which commerce must stand still, manufactures perish, even war cease its fearful thunders, society become disorganized, and man utterly fail. But He who cares for man, has smiled upon the fields, and again they return a joyous thank-offering of plenty. But want of space forbids to pursue the pleasant fancies which this topic calls forth. Let us note a few practical suggestions pertinent to the season. And first with reference to the proper time of harvesting grain. Experiments have repeatedly proved that the weight and quality are both improved by cutting when the berry is just out of the milk, or as soon as it is hard enough to bear moderate pressure of the thumb-nail without breaking. This is usually about ten days before full maturity. A correspondent of the *Agriculturist* several years since experimented on a crop of fifty acres of wheat. The bulk of it was cut as here recommended, and weighed 62½ lbs. to the bushel. The remainder, gathered when fully ripe, gave only 58 pounds per bushel. On the whole amount of 1,200 bushels, there was a gain of 5,400 lbs., or about 90 bushels in bulk, and the quality of the flour was superior.

In addition to the difference in weight of the grain, there is no little loss by the shelling out of the kernels, when they are fully ripened. We have seen fields bear a large crop with no other seeding than that received from what had been scattered during the previous harvest. A still further saving can be made by going over the field with a horse-rake after the ground is cleared of sheaves. What is gathered, if not sufficiently clear for making flour, will serve a good purpose to grind into feed for swine and other stock. When, as at present, every pound of food is needed, and will command a high price, all should be turned to the best account.

There should also be an eye to the wants of the following year. In almost every lot of grain, on account of better soil, more favorable exposure, more thorough drainage, or other causes, some parts will give earlier maturity and a better yield than others. If pains were taken each year to mark such places and save the grain from them for seed, the result would be seen in a general improvement at harvest. The "Pedigree Wheat," which has become celebrated in England for its superiority, was produced by carefully following up this process for years. The cultivator, Mr. Hallett, took pains to select the best *heads* each season, and a marked improvement was made annually. So much pains as this can scarcely be expected during the present busy time, but the best part of the field can easily be marked off, and left to mature its seed. Before harvesting, the weeds should be pulled out, and when the grain is fully ripe, it should be gathered, and stored by itself, to be threshed with the flail, and used for seed. It would pay well in many instances to buy a patch from a neighboring wheat field, if it should be superior to any grown at home. The old rule "Take time by the forelock," so excellent to be followed in all farming operations, applies with especial force to the matter of securing good seed.

Hints for Haying Time.

In the great hay growing states, much of the crop will be gathered during the present month. It is noticeable that haying time has advanced during the last twenty years, it being now one to three weeks earlier than formerly. This has resulted, not from any change in the seasons, but from the growing conviction that a better article of fodder is secured by cutting grass before the seed has ripened. The *Agriculturist* has always sustained this view, and attention is again called to it from its intrinsic importance, and because a few yet remain who follow the old ways. It is generally understood that to secure the highest flavor and strength of medicinal herbs, they should be gathered when in flower, or just passing out of bloom; and accordingly careful housekeepers lay in their stock of boneset, motherwort, catnip, etc., at that period. When the seeds of plants commence to form, the nutritive portions are largely taken from the stem and leaves to aid in the development of this more important part—that which is to secure the continuance of the species. A further change also takes place in the composition of the stem, as maturity of the seed advances. A stronger stalk is needed to support the increased weight of the seed-bearing head, and accordingly, the sugar and starch are converted into woody fibre, which gives the required stiffness, but affords very little nourishing material for the use of animals. Grass forms no exception to this rule in the ripening of plants. Every one will readily notice the greater strength and harshness of a stalk of timothy when the seed is fully ripe. Animals are excellent judges in this matter; they will invariably prefer hay cut before the blooming season is entirely past, to that left to ripen its seed.

Much hard work and vexation will be saved by having all necessary implements in order before the labor commences. No thrifty farmer having ten or twenty acres of meadow will think of mowing by hand. If there be not work enough to warrant the purchase of a machine, arrange with a neighbor who owns one to have the work done. The horse-pitchfork will also be found indispensable after one season's trial. And once more we urge the desirableness of hay-caps. By their use many loads of hay may be saved from spoiling, and the whole crop be benefited by protection from dew while curing in the cock. A word or two on this latter point. In perhaps the majority of instances, hay is injured by too much exposure to the sun. In the haste to dry out moisture, a large amount of the sweetness of the hay is also lost. Grass cut after the dew is off in the morning (which can be done with the machine, but not well by hand) in fair weather, will be ready to put into small cocks before night. Cover it with the caps and leave it there two days, more or less according to the weather and convenience; then on a clear forenoon open the cocks for an airing of an hour or two, and they will usually be ready to draw to the barn. It is desirable to have several places for storing the hay, that not more than a load or two need be bulked at one time. It should not be packed tight, and ample provision should be made for ventilation. If there be any doubt as to the sufficient dryness of hay which it is desirable to put under cover, sprinkle over it three or four quarts of salt per ton, and spread a layer of dry, bright straw between each layer of hay made by an ordinary forkful. This will absorb a large part of the escaping moisture, preventing molding, and the imparted flavor of the hay will make the straw itself palatable to stock. This plan of mixing straw with hay, while the hay is damp and green, is economical, as we know from successful experience.

How to Sharpen a Scythe.

"Mower" writes to the *American Agriculturist:* "To properly grind and whet a scythe, requires some little practical skill, in the attainment of which the beginner may be assisted by a few hints. The cutting edge of a scythe or similar instrument, when examined by a microscope, shows numerous fine projecting points or a series of minute wedges which are to be driven into the substance operated on, to separate the adjoining parts. In order that they may enter the more readily, these points should incline in the direction of the stroke given with the blade of the instrument. In cutting with the scythe, the edge strikes the grass at an angle of about forty five degrees, and hence the grinding should be done so as to have the points set in that direction to the blade. This is done by keeping the blade firmly upon the stone, with the point drawn toward the body of the holder, at the above mentioned angle with the edge of the stone. Commence to grind at the heel and move it steadily along as the work progresses, until the point is reached, then grind the other side in the same manner. Never rub the scythe back and forth upon the stone as though endeavoring to whet it. The revolution of the stone will wear away the steel much better than rubbing it in this manner, by which the edge is likely to be made rounding, and to be set irregularly. It is preferable to hold the scythe so that the stone will revolve toward the edge. In this way the holder can see when the edge is reached, and the particles ground off are carried away clean. In the opposite method of grinding there is danger of making a "feather" edge which will readily crumble off, and leave the scythe almost or quite as dull as before. The blade should be ground equally on both sides. In whetting a scythe, lay the rifle or whetstone flat against the side of the blade, and give a light quick stroke downward and forward, in the direction of the edge, so that the scratches it makes, shall keep the points set in the same direction as given them by grinding. By following these simple suggestions, a scythe may be made to hold its edge twice as long as when the rifle is drawn along the edge almost at random. A few strokes carefully given, will enable the workman to keep the right direction and whet rapidly."

Steam in the Hay Field.

To the Editor of the American Agriculturist:

Steam would be a capital thing in the hay field, no doubt, if it could be applied in the right place. There's a grand chance for some Yankee to invent a steam mower, raker, and pitcher, when this war is over and inventors have time to think of something besides guns and shells, and other man-killing traps. But I want to enter my protest against trying to make human engines work by steam in haying time, or for that matter, at any other time. A great many people yet have the notion that in haying time, whiskey, or cider brandy, or some other kind of steam as they call it, is particularly necessary. They can chop, or plow, or hoe, or do any other farm work without such help, but when haying and harvest commence, the jug must be regularly filled and emptied. I don't know why they don't fire up their horses as well as themselves, especially since mowing machines have come into fashion, and animals have the hardest part of the work to do. For my part I think one needs it just as much as the other, and no more. It always appeared to me that a July sun was hot enough, without a man's pouring liquid fire down his insides. I know that after a dram a man will feel a little more like work for an hour or so, but its only doing so much overwork, and the hour afterward he will do underwork enough to more than balance it, and feel much more exhausted than if he had gone on at a steady gait without the extra steam. Alcohol don't strengthen the body, it only excites it for a short time, and makes it work faster and harder than its natural power would allow, and this over-exertion must be made up for by more rest afterward. If any one doubts this let him try it on his horse. Give whiskey with his oats, and see how he will make things go for a while, and how soon he will be used up afterward. Men would not do this for fear of injuring their animals; for my part I think man the most valuable animal on the farm, and what is not fit for a horse is not fit for him. JONATHAN.

[We fully agree with Jonathan, regarding the use of alcoholic drinks in the hay (or any other) field, but would at the same time caution against the excessive use of ice-water. Immoderate water drinking is quite as much the result of habit as of necessity. During the violent exercise of the hay field water is needed to replace that lost by perspiration; as a general thing too much is taken. A beverage of water, vinegar, sugar or molasses, and ginger, is much used in some localities, and is found to satisfy thirst better, and less liable to produce unpleasant consequences than large quantities of ice-water.—ED.]

Manure Making in Summer.

This is generally overlooked, in the press of field work which engrosses the attention of the cultivator during the Summer. Yet there are occasional hours which can be profitably employed in this work. Except where the natural fertility of the soil is for the present sufficient to meet all the wants of growing crops, other things being equal, the prosperity of the farmer will be found to maintain a remarkable ratio to their attention to enriching his land. We believe that on hundreds of farms it would well repay the cost, to employ an extra hand for the express purpose of collecting and preparing manures. The sources from which materials are to be drawn of course vary in different localities, but the principal ones are among the following: 1st, the barnyard. Where cattle are yarded at night, their droppings, if left uncared for, as is usually the case, lose a large part of their value, by drying out under the hot summer sun. Evaporation carries off much of the ammonia, one of the most valuable ingredients, and it is wafted along by the air to be distributed in infinitesimal portions over the surrounding country. The careful manager will provide muck, sods, soil, or other absorbent to mix with excrements every few days, either by shoveling over in heaps, or by plowing up the yard, which is more expeditious though less favorable to the cleanliness of the yard, where milking is usually done.

Along the roadside and too often by the fence-lines, are numberless weeds which have drawn part of their support from the soil, and gather-

ed the remainder from the air and moisture. They are stored with fertilizing material, and if cut and worked over by the pigs in the pen, or made into a heap with muck and lime added, will swell the store of grain and grass-making substances. The slops and refuse from an ordinary family, if properly economized, will furnish nearly or quite good manure enough to nourish the vegetables they consume. Usually these are worse than wasted by being thrown into some corner, where weeds grow rampant on the valuable deposit. Then there are the privies, the contents of which, if utilized by mixing with muck, or common soil, might add vigor to the growth of garden and field, but which commonly make their locality only a nuisance. Many swamps which are inaccessible at other seasons, can now be entered, to draw from them the accumulation of vegetable matter which has been gathering for many years. This only needs properly working over, to take a new form in grass, grain, fruit, vegetables, in short any desirable product on the farm. Cheap hands, such as could not profitably work at cultivating, can be hired to dig muck and throw it into heaps, to be acted on by the elements, and afterward used to increase the compost heap. All these sources should be turned to account during the Summer, even if extra help be required to accomplish it. If the *Agriculturist* should do no more than induce cultivators to turn their attention to the available supplies of manure and their proper application to crops, it would accomplish enough to many times repay its cost to the community.

Buckwheat versus Summer Fallow.

Summer fallowing, that is, plowing land in Summer and allowing it to lie unoccupied until sowing with winter grain, is practised by many for the alleged reason that it *rests* the land, and gives it heart for the next crop. It is enough to say on this point that land does not *tire* of producing. It needs only plant-making material enough in its substance, to continue to yield abundant and increasing crops. It is not required that an amount of manure be restored to the soil equal to the amount of produce removed, for a large portion of the substance of plants is derived from air and water. For this reason there is positive gain in allowing growth upon a field, if all the vegetable matter produced be returned to the soil. Summer fallowing is therefore, in one respect, prejudicial to the fertility of land. It may, however, secure other important advantages. It makes the soil mellow, and brings it into good condition for the reception of the fall-sown grain, and if properly performed, secures the destruction of many weeds, by exposing their roots to summer heat. But these ends can be equally well attained while raising a profitable crop of buckwheat. Provision should of course be made to feed the crop, if the grain is to be harvested. A moderate dressing of manure will be sufficient on land already in good heart. If there be not enough barn-yard manure, apply a good dressing of bone-dust or Peruvian guano. Plow early in July, which will eradicate most of the weeds, harrow thoroughly, and sow about three pecks of seed per acre. In a favorable season, the rapid growth of buckwheat will smother nearly all the weeds that have survived the preparation of the ground. In Autumn the crop may be harvested in ample time to prepare the soil for wheat or rye, the sods will all be well rotted, and the land in as good condition after plowing as though it had *rested* during the Summer, while in an ordinary season, there will be 20 to 25 bushels of buckwheat per acre on the credit side of the account. This grain will also well fill the vacancy which may have been left by a corn crop failing through unfavorable weather or other causes in Spring. Buckwheat is always marketable. During the present and prospective high prices of oats, it will not come amiss for grinding and feeding to stock, and a liberal quantity for consumption in the house is always a welcome addition to the staple winter provisions.

For the American Agriculturist.

Shall the Clover be Plowed Under?

There it lies, a splendid field of clover, in full blossom, musical with the voices of myriad bees, and perfuming the morning air with its fragrance. It is altogether too handsome to be put under the dirt. You might go miles to find so fair a sight, even in a flower garden. And then if it were not, what thrifty farmer can afford to manure his field at such a cost? There is not less than three tons of cured hay to the acre, worth at least ten dollars the ton standing, to say nothing of the after feed which must be sacrificed to manure. Can a man afford to give thirty dollars an acre for manure? Mr, Pennywise hesitates, and thinks it is paying too dear for that whistle. He can get his manure cheaper. But can he? Let us look at it a little. What has the clover actually cost him? The seed, say one dollar per acre, the extra labor of sowing, and the interest upon the value of the land. As the seed was sown with oats or barley, or some other grain crop, we do not count the labor of getting it in. It has not cost him five dollars an acre, even if the land is worth sixty dollars. In the green state there are probably eight or ten tons of vegetable matter, equivalent to a heavy manuring with stable manure, that would cost thirty dollars per acre, reckoning the manure at two dollars a cord, and the carting at common prices.

The clover is just where you want it, and if turned in, will be more evenly distributed than any stable manure can be by the most laborious process. There is hardly an inch square of the whole sod that will not feel the effects of the decomposing matter. There is no expense for carting, for spreading, or harrowing. Then it is to be considered that it is not simply so much vegetable matter added to the soil, but added to it in a succulent state, in which it will be rapidly decomposed and changed into plant food. Green crops, turned under in the early Summer, affect the soil with which they come in contact in some way that we do not fully understand. Possibly the acids released act upon the mineral portions of the soil, and form new compounds that are immediately available for the food of plants. This seems to be necessary to account for the beneficial effects of plowing in at this season, rather than in the Fall, when the fibre of the grass is harder or partially dried. Experience shows that the crop has by far the best effect when it is turned under in the green state, and in warm weather. It goes through a very rapid fermentation, and in some manner changes the character of a good deal of soil with which it comes in contact.

If a farmer had all the manure he wanted, and his fields all lay close to the barn-yard, it might not be economical to turn in green crops, and especially clover which is so valuable for fodder both green and cured. But few farmers have as much manure as they can use to good advantage, especially in the older States. Some of the fields lie at a distance from the barn, and the expense of getting the manure on to the ground is greater than the cost of making the manure. And even if manure were plenty, it is a good plan to have a place in the rotation, where a green crop is turned in. It does a good work for the soil, that can be accomplished by no other method so economically. It makes a splendid seed bed, and prepares the ground for winter grain in the best manner.

It seems a great waste to spoil so much good food for beasts, but it is in keeping with the economy of husbandry. It seems a great waste to put eight or ten bushels of potatoes in the soil to get a crop; but they come back again many fold. That which we sow "is not quickened except it die." The seeming losses of the farm are often our largest gains! If we are charmed with the blossoms and the murmur of the bees, better close our eyes and stop our ears, and let the plow do its work. New life and vigor will be imparted to the soil, and there will come up out of the grave of our buried hopes, a glorious resurrection—fields of tasseled corn or golden wheat to make glad the heart of the husbandman. CONNECTICUT.

Sheep as Fertilizers.

John E. Traver, of Dutchess County, N. Y., writes to the *American Agriculturist:* "I keep a flock of thirty sheep which have had the range of an eight acre lot. The soil of this was thin, as it was situated at some distance from the barn-yard, and had received no manure from that source. In the Summer of 1858 the dogs got among my sheep and frightened them so they would not go on the back side of the lot, unless it was to feed for a short time, and they lay wholly on the one side of the field. I planted it with corn after it had lain two years. The side of the lot where the sheep had rested, gave a good yield, and the worms did not trouble it throughout the season. Where the sheep did not lay, but only fed, the worms made sad havoc, and the corn was poor. The oat crop following showed the same difference. On the rye I did not see so much inequality. My opinion is that if we keep more sheep, our crops will not be so much infested with worms.

Tanning Skins of Animals.

"D," of Jackson Co., Ill., writes to the *Agriculturist:* "Old hunters here tan hides and skins of all kinds with *brains.*—A new use for brains, you may say—but a better use than *some brains* have been put to, for a year or two past, at least. If the hair, wool or fur, is to be retained in the skin, it is simply soaked in warm water and the fleshy part rubbed off with a knife, the skin being stretched over a half round block for convenience. It is then soaked a short time in a little water in which the brain of some animal is dissolved; then taken out and pulled and stretched every way until dry. It will then be soft, pliable, and not liable to become hard on being wet and drying again. If I remember rightly, the lime process is adopted to get rid of the hair or wool, after which the skin is very thoroughly washed to get all the lime out of it, and then manipulated with the brain water."

QUESTION FOR THE N. Y. FARMERS' CLUB.—Will wheat *blast* more easily for being *drilled?*

Fig. 1.—COUCH-GRASS.

Talks About Weeds....II.

In these notes upon weeds we shall not follow any botanical order, but take them mainly with reference to the season. The first one we notice is Couch grass, (*Triticum repens,*) fig. 1, which is, in some localities, a most troublesome weed. Where it gets full possession of the ground, it will overrun and occupy it to the exclusion of every thing else. It is also known in different sections as: Quack-grass, Quitch-grass, Twitch-grass, Dog-grass, Wheat-grass, etc. The last-mentioned name is given from its resemblance to wheat, both belonging to the same genus. The stems are about two feet high, and bear a head somewhat like that of wheat, though longer and more slender. Unlike wheat this is a perennial, and one of its most remarkable characters—that which makes it so difficult to eradicate—is its long underground stem, which is commonly mistaken for a root, and runs just below the surface. This underground stem throws out roots from each joint, and has at the same point, a bud or eye from which a stem may spring. It will be seen that every inch or so of this stem is capable of becoming a plant, as shown in fig. 2, which is a rooted layer—a piece of stem with a root and an eye ready to start. This explains the great difficultyin exterminating Couch-grass. If the cultivator is run through a tuft of the plant, it may tear away the above-ground portion, but there will be left below, a large number of fragments of these underground stems, each one of which will make a new plant. From the manner in which the plant multiplies, it will be seen that merely scraping the surface with a hoe will not destroy it; this only causes a dozen plants to spring up where there was one before, and the work will shortly have to be done over again. There must be no half work, for nothing short of actual eradication will get rid of it. Perhaps the best plan is to run a cultivator through the soil and follow it with a fork, and carefully pick out all fragments and lay them in the sun to dry. With this, as with all troublesome weeds, much labor is caused by neglect when the plant first makes its appearance in the fields. A few weeds do not present a formidable appearance, but they are quietly laying the foundation for much after trouble. In some parts of England, a large part of the expense of cultivation is due to the labor devoted to the eradication of the Couch grass. The grass is liked by cattle, and it is raised in some parts of the Southfor pasturage.

Fig. 2.

BIND-WEED.—We introduce here a figure of a weed which is exceedingly troublesome in Europe, and which has become established in some places in this country. We have some native plants which are called "bind-weeds," but the name properly belongs to this—the *Convolvulus arvensis.* The plant is very much like a small Morning Glory, to which it is closely related. The stem grows two feet or more high, and twines around other plants. The shape of the leaves is shown in the figure, which is about half the natural size. The roots are perennial, and very long and very difficult to destroy. It soon spreads rapidly, and should be exterminated, at whatever cost of labor, as soon as it makes its appearance. It comes from Europe, but we have a native plant which is a near relative, known as the Wild Morning Glory, and Large or Hedge Bind-Weed. This is much larger than the other, and will run to the hight of 8 or 10 feet. The flowers are about as large as those of the common Morning Glory. It

Fig. 3.—BIND-WEED.

grows in low moist places, and sometimes becomes troublesome in cultivated grounds. Frequently repeated hoeing down is the only successful remedy which we have seen suggested.

Sugar from Unripe Cane.

L. F. Hadley, of Chicago, Ill., who has had considerable experience with the Chinese Sugar Cane, says, in a communication to the Prairie Farmer, that the time to make *sugar*, commences when the cane begins to mature, and ends when the cane is fully ripe, after which it will make good molasses, but not sugar. Several years' trial has convinced him that this is the case, and in illustration he gives the results from cane cut just as the seed was beginning to turn brown, which granulated finely, while the syrup from the rest of the field, cut when fully ripe, refused to "sugar off." He recommends to cut early, and work it up as fast as possible, but thinks it will make sugar late, if cut before fully ripe.

Testing the Quality of Milk.

The real value of a cow to the dairy farmer is not in the number of quarts of milk she will give, but in the number of pounds of butter she will afford. There is a greater difference in this respect than is generally supposed; some

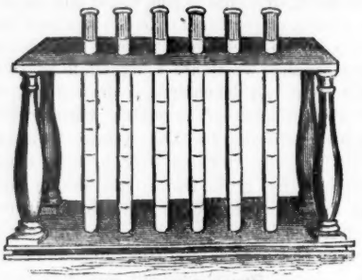
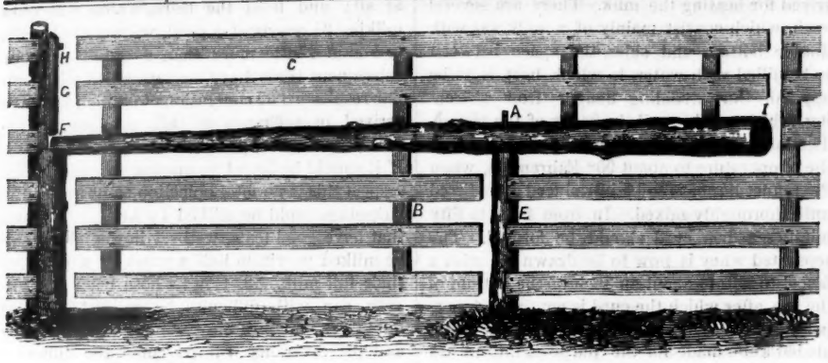


Fig. 1.—LACTOMETER.

cows making twice or even three times as much butter as others. Several methods have been proposed for testing the qualities of milk,—one of these is by the use of the hydrometer. The construction of the instrument will be understood by the engraving, (fig. 2.) A small glass tube, with a bulb at one end, has a wooden float fixed upon it. Shot are placed in the bulb in sufficient quantity to sink it in water to the point marked 100 on the stem. The instrument is then put into pure milk, and the point at which it stands in that, is also marked on the stem, and the place between the two marks divided into 100 degrees. As pure milk is heavier than water, the instrument will be buoyed up more in the one than in the other, and it at first sight would appear to show the value of the milk. But the specific gravity of cream is less than that of milk, and a specimen of milk very rich in cream, would show lighter by the hydrometer than a poorer sample. Though this instrument would be serviceable to the city consumer in detecting adulteration with any considerable amount of water, it will not serve the dairyman to indicate the butter-producing quality of the milk of different cows. The old lactometer, which was invented a half century ago, has not been superseded in practical worth by any recent contrivance. This tests the value of the milk by showing the amount of cream afforded by each sample,

Fig. 2.

and consists, (fig. 1,) of a series of glass tubes of equal size, closed at the bottom; they are about a foot long and one third of an inch in diameter, and graduated by markings on the glass. These are to be filled to an equal hight with milk, and after standing for the cream to rise, the comparative value of the milk of different cows can be seen at a glance. An apparatus of this kind is not only useful as showing the difference in cows, but also in testing the butter-producing value of different kinds of feed. These tubes are cheap, and may be bought at most of the agricultural warehouses.



The Balance Gate.

The farm gate illustrated above, the description of which was communicated to the *Agriculturist*, by N. Hine, Atlantic County, N. J., possesses some excellent features. It is a modification of the well-known, old-fashioned balance gate. The construction will be readily understood by reference to the illustration. The beam or pole *A*, of suitable length, turns on the post *E*, being held in place by a 2-inch pin extending through the beam. The uprights, *B*, 2x3 inches, pass through mortises in the middle of the beam, and are pinned fast. The slats, *C*, are of boards of any desired width, securely fastened to the uprights with wrought nails clinched. When the gate is closed, the smaller end of the beam rests in a slot or mortise in the post at *F*, or a strip of plank with a suitable notch for the purpose may be pinned to the post. A narrow strip, *G*, hanging from a pin at *H*, rests over the end of the beam, to hold it in place: this is turned aside when the gate is to be opened. The gate may be balanced by placing weights upon the short end of the beam, at *I*, so that a very small amount of force will turn it. It opens in either direction, can be easily lifted over snow drifts, and what is of great importance, the weight of the gate can not draw the supporting post out of perpendicular.

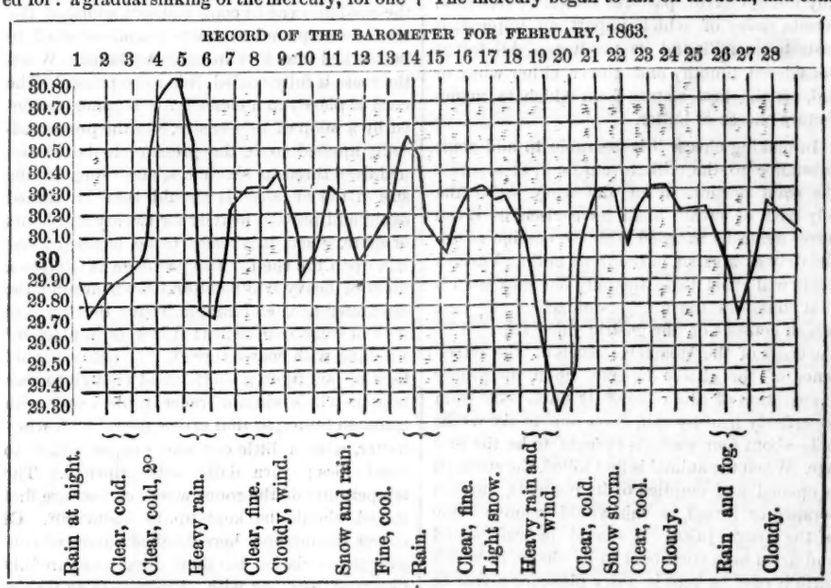
The Barometer as a Weather Indicator.

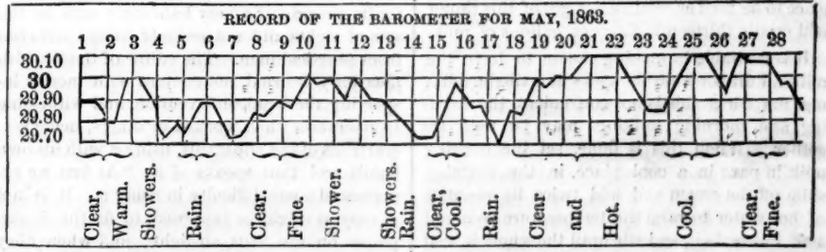
Careful observations through many years and in different countries, have established the fact that a change in the weather is generally foretold by the barometer. Recently some persons have endeavored to throw doubt upon the value of this instrument as an indicator of the weather, but until we can see their written observations and a record of the state of the weather at each observation, we shall continue to believe with the majority of meteorologists—especially as our own experience coincides with theirs. That the barometer, properly understood and observed, will in the great majority of cases, foretell a storm, we are confident—not from a few observations, but from watching it for several years, and in different climates. One thing which has brought the instrument into disrepute is the practice, followed by many makers, of marking upon their scales "fair," "change," "rain," etc. Persons finding that the mercury seldom indicates the weather according to these markings, have given up the instrument as altogether unreliable. The value of the barometer (unlike the thermometer) does not consist in showing where the mercury stands, but in showing the change which takes place in its hight from one time to another. It is the *rise and fall* of the mercury which is to be observed, and the extent of this varies in different seasons, and in different localities. To derive any benefit from the barometer, it should be observed at fixed periods—(7 A. M. and 2 and 9 P. M., are the usual ones)—and the observations recorded. It may be stated, as a general rule, that if the column remains for a long time at one particular hight, we may expect a continuance of the present weather, be it good or bad: if the mercury suddenly falls, a sudden change of weather, but of short duration, may be looked for: a gradual sinking of the mercury, for one or more days, foretells a long continued storm, and during a storm, a rise in the column shows the approach of fair weather. To show the correspondence between the hight of the mercury in the barometer, and the state of the weather, we present two diagrams, which are actual transcripts of the records kept at the office of the *Agriculturist*. This manner of recording matters liable to fluctuation, was described on page 44, February No., and presents the barometric variations to the eye in a striking manner.

In each diagram the perpendicular lines indicate the days of the month, while the horizontal ones mark the hight of the mercury; each line represents ten-hundredths of an inch. The notes upon the state of the weather are given, in condensed form, at the bottom of the diagrams.

During the month of February, the fall of rain and melted snow amounted to 7.04 inches. The mercury in the barometer, on the 5th, rose to the highest point reached in 30 years. As a fall nearly always succeeds a rapid rise, upon seeing the mercury going up so rapidly, we confidently looked for the fall and rain, which came plentifully on the 6th. It will be noted that every considerable depression of the mercury, was accompanied by rain. It fell suddenly on the 19th, and reached the lowest point for the month. A heavy rain occurred at the same time, commencing with N. E. wind on the 18th, and ending on the 20th. The variation from the extreme rise to the lowest fall was an inch and-a-half, which is greater than the average.

Farmers well know that May was a *dry* month. There was less than half an inch of variation in the barometer up to the 30th, and less than four inches of rain, the most of which fell in the first half of the month. The track is the most even one for a whole year, though several rain falls occurred, some of which were not very clearly indicated by the barometer. The mercury began to fall on the 28th, and continued to sink until the 31st. We had fine showers the 30th and 31st. Our engraved record for May only includes 28 days to correspond with the month of February. It is only where the barometer is frequently watched, that its use is manifest. We conceive that it would be both interesting and profitable for the farmer's son, to keep an accurate record, not only of the barometer, but of the thermometer, and the state of the weather also. It is a matter of great interest, to compare one month with another, and one year with another. Our special premium now puts it within the power of most persons, to secure a reliable instrument on very easy terms. (See page 224 of this number.)





Notes on Cheese Making.

The more solid part of milk consists mainly of oily matter (butter,) and a substance named caseine, the principal ingredient in cheese. To make a good article of cheese for the table, requires that both the butter and the caseine be retained, and the watery portion or whey be wholly pressed out. Cheese can be made, as every farmer's wife knows, of sour milk from which all the cream has been removed, or from buttermilk. The solid part or caseine is easily separated from the whey by heating, and it is often prepared in this manner under the name of "pot-cheese," or "cottage cheese." In order, however, to make even this palatable, it is necessary to work in with it a portion of butter. Much of the cheese sent to market has been made from skimmed milk, and its toughness and want of flavor are in proportion to the amount of cream which has been removed from the milk. Some specimens might almost be replaced with India rubber, or gutta percha. It follows that to manufacture the best cheese, the cows should have good feed from which to elaborate rich milk. As butter readily receives any foreign flavor, pastures should be free from weeds, many of which impart an unpleasant taste to the milk and its products. All things considered, timothy and clover, either white or red, are the best staples from which to manufacture cheese or butter.

In making cheese it is desirable to add some substance to the milk to curdle it, or separate the solid portions from the whey, *before* the oily part or cream shall have risen, as it can never again be mingled with the caseine so intimately as it exists in the fresh milk. Various acids will effect this; the only one now used is that found in the fourth stomach of the calf, which consists of the gastric juice secreted by the coats of the stomach. Much of the excellence of the cheese depends upon the proper preparation of this article. It should be from a perfectly healthy calf, from one to six weeks old—about four weeks is thought to be the best age. When the animal is first killed, the stomach is opened and emptied of its contents, but not scraped or rinsed, as this would remove some of the gastric juice. It should be well salted and dried on a stick bent to its shape, in which form it may be kept in a dry place for a year or more. To prepare it for use, an ordinary sized rennet is placed in a gallon of soft water warmed to about ninety degrees, in which it is churned or rubbed occasionally for twenty four hours. After the rennet is removed, it may be dried, salted, and used again. To the rennet liquor is added as much salt as it will dissolve; it is then strained, and kept in tight vessels in a cool place to be used as wanted. A gill of this liquor will curdle thirteen to fourteen gallons of milk.

It is desirable in making cheese to have the milk all drawn from the cows at a single milking, but when this is not convenient, the evening and morning milkings may be used together. When this is done, set the evening milk in pans in a cool place, in the morning skim off the cream and add twice its quantity of hot water to raise the temperature to about 100° Fahrenheit, and stir until the whole is well mixed. Then add it, with the milk from which it was taken, to the morning milk, stir the whole together, and proceed as with a single milking. It greatly diminishes the labor of cheese making, and aids in securing a good article, to employ an apparatus specially contrived for heating the milk. There are several such, which consist mainly of a milk vat with double bottom and sides, the space between to be filled with water, to which heat is to be applied, thus avoiding danger from scorching, which would spoil the flavor of the cheese. The milk being ready, heat is applied to raise the temperature to about 90° Fahrenheit, when the rennet liquor is to be introduced and stirred until thoroughly mixed. In from forty to fifty minutes a firm curd should be formed. The separated whey is now to be drawn off with a faucet to within about an inch of the bottom of the tub, after which the curd is cut through perpendicularly and horizontally, with a wide bladed knife made for the purpose, into pieces about half an inch square. It is then to be removed to the strainer, which is usually placed in a basket, and set over a tub to allow the whey to drain out. After draining, it is returned to the vat, the whey first drawn added to it, and the temperature raised to about 100° Fahrenheit, to cook it before salting and pressing. It should be continually stirred until this process is finished, which is known by the curd becoming elastic, and breaking toughly with a sort of creaking noise. The whey is then drawn off, the curd allowed to cool, and salt added at the rate of one pound to thirty pounds of curd, to be worked into it thoroughly by hand. When the mass is fully cooled, it is to be pressed. The curd is placed in a clean linen strainer, confined by a hoop of proper size, and the press gradually applied to it, the pressure to be continued from three to six hours, according to the size of the cheese. It should then be turned again and pressed heavily for twenty four hours or more, when it is ready to be bandaged and laid upon the shelf. The bandage is simply a piece of heavy white cotton drawn around the circumference, and lapping over the top and bottom some two inches; it is kept in place by stitching with coarse thread. The cheese should then be laid upon a shelf broad enough to sustain its whole circumference, rubbed over with common butter, or that article mixed with whey butter, with a little cayenne pepper added to repel flies; turn daily until ripened. The temperature of the room where cheeses are first stored, should be kept up to about 80°. Of course the method here detailed admits of considerable variation, but these directions carefully observed, together with *cleanliness in all the operations*, will secure an article which will always find a ready market at good prices. *

The Cow-Milker Again.

This instrument which received such a large share of attention at the International Exhibition in London, and which it is said realized for its proprietor a very handsome sum by the sale of rights, did not entirely escape criticism from practical men. The editor of the Scottish Quarterly Journal, not content with merely inspecting the Yankee invention, and witnessing its operation when worked by others, made several trials of the apparatus, using it with his own hands and thus speaks of it: "At first we experienced some difficulty in using it. It is not as easy as might be supposed, to fit the finger-pieces on the teats air-tight; and when they are so fitted on, a restive animal is liable to throw the whole out of gear. We attempted the milking of three cows on the first trial. From one which was milking from 5 to 5½ quarts at a meal, we obtained 4½ quarts; another, which has very uneven teats, we could not milk at all; and from the third, which was only milking 2½ quarts at a meal, we were only able to obtain a little more than a quart. All our subsequent trials have been attended with similar results. The conclusions to which we have arrived in reference to this machine, are:—

1. It will not extract all the milk from cows. If it should be found to answer in every other respect this is no fatal objection to its use, as the strippings could be milked by hand. 2. Cows that have good teats, well set in the udder, can be milked to within half a quart to a quart of their full milk. 3. Cows whose teats are uneven can with difficulty be milked. 4. We doubt very much if any amount of experience and preserverance will overcome the difficulty of milking kicking or restive cows."

For the American Agriculturist.

Improvement of Agricultural Exhibitions.

Agricultural Exhibitions should be something more than mere shows to excite and gratify curiosity. In conducting them, this has been the principal motive apparent to too great an extent, whether or not designed by those having them in charge. Of what practical value is it to a cultivator to look upon a bullock fattened to unwieldy proportions, or a beet or pumpkin grown to monstrosity? Such displays, it is true, call forth expressions of wonder, and are interesting as being out of the ordinary line, but for all practical purposes there would be equal benefit in examining Barnum's wooly horse. At the Exhibition of a County Agricultural Association held last year, and attended by the writer, the most instructive feature was a collection of samples of wheat, accompanied in each instance with a statement of the kind, time of sowing, method of treatment, period of ripening, and yield per acre. There was material enough in that corner for hours of profitable study, and a few knowing ones were busy there taking notes for future use. Without doubt many of their crops the present year will show that a most profitable day was spent at the exhibition. We insist that each article exhibited should be in itself an epitome of some valuable facts for cultivators, and that it should be accompanied with such written notes that the whole story could be readily gathered by the observers. It is comparatively easy to fit up a show specimen according to present methods. Plant a few hills of pumpkins on ground expressly prepared for the occasion. Select the most vigorous vine, leave only the most promising sample of fruit, prune the rampant growth, dose with liquid manure, and ultimately a monster may be the result. But who thinks this would pay in ordinary practice? And so of other agricultural productions. It may not be so attractive, but it is far more worthy attention to carefully conduct an experiment which, if successful, may be profitably repeated, and exhibit its results, and the details by which they were reached. It is pleasant and harmless amusement now and then to produce and exhibit articles of unusual proportions, but it is beneath the dignity of cultivators to allow such displays to be the chief attractions at their exhibitions. To a large extent the visitors at exhibitions are responsible for the mismanagement now objected to. They attend the annual agricultural gathering more with a view to sight-seeing, than of seeking improvement, and managers feel compelled to cater to their taste in order to raise the requisite funds for the support of the institution. Hence, the stimulus of prizes

for the largest and most showy articles, the patronage of the race course, and the tolerance and introduction of shows entirely foreign to the object of the meeting. It is fully in the province of the managers of Agricultural Associations to institute a reform in these particulars, and to educate the public to a just appreciation of the appropriate work of such Exhibitions, viz.; to show the proceeds of the best culture, and the methods by which all may secure like results. Farmers will gladly spend a few days and dollars if they can gather facts which shall increase their harvests or lighten their labors. It is not intended by these remarks to entirely condemn the present management of Agricultural Exhibitions in this country, but only to call attention to some growing abuses which threaten to bring these almost indispensable institutions into contempt. Taken as a whole, our Annual Exhibitions will compare favorably with those of any other country; it should be our aim not only to make them superior to others, but to raise them to the highest possible standard of excellence. OBSERVER.

Working of the Homestead-Law.

The following extracts from a familiar letter written by a subscriber to the *Agriculturist*, indicate how great a benefit has been conferred by the Homestead Law upon thousands who need only a *start* in life to become the independent possessors of a home and the means of support. Let those who from untoward circumstances find it impracticable or difficult to make their way by other means, find encouragement in the example here shown. The writer says: "I failed up in the mercantile business, had nothing left but a span of horses and some household furniture and a few dollars in money, with wich I started for Nebraska to take a homestead under the new law. I arrived here in March with just $5 left, took a claim, put up a log house, and went to work. I have 160 acres of splendid land which will make me a good farm, which only cost me $13; and five years' residence on it secures me the title by paying $2 more at the end of that time. I have got 10 acres of land broken up and a good garden started, and am greatly indebted for the latter to volumes 20 and 21, of the *Agriculturist*, which I bought on the way out where I stopped over night. I have read them thoroughly, and come to the conclusion that I cannot get along without the paper. I have no experience in farming, and when I want information on any point I refer to the paper and am almost sure to find it—consequently I send the dollar for the present year, which I got by working out by the day, and this is the very best investment I can make. I wish some thousands of the hard-worked clerks and mechanics in the city, that have families to support, could know what a chance there is here for them to secure a home and a sure competency. I have been through the mill, and can truly say that I am happier and better contended here in my log house, with the prospect before me of securing an attractive home for myself and children, than I ever was when in successful pursuit of a mercantile business. Here is ample room for thousands—produce of all kinds is high and commands cash at any time. The soil is a light loam with a slight intermixture of sand, the country is healthy, plenty of good water to be had by digging 10 to 12 feet, to say nothing of creeks. My claim is on the great military road from Omaha to the mines, upon which hundreds of teams pass daily, laden with stores of every description. The middle branch of the Pacific Road (when built) will pass near here, and right here in the valley of the Platte River are thousands of acres waiting for somebody to take them in possession—"to tickle with a hoe, that they may laugh a harvest." Do tell the poor hard-working drudges that barely eke out a scanty subsistence, that here they could be lords of the soil and soon gain an independence.

A Few More Humbugs.

Circulars and Advertisements of various swindling schemes continue to be received at the *Agriculturist* office, from subscribers who have been duly warned by our previous exposures, and are desirous of having others put on their guard. The following are among the latest new operations. A writer in the Chicago Tribune, in a long communication claims to have discovered an infallible method of determining between the middle of October and the middle of February of each year, what will be the success of the wheat crop of the following season. He professes to have tested his theory for thirteen years past, and found it infallible. He modestly claims to predict with certainty only concerning the "territory west of Lake Michigan, and north of forty one degrees, and to some extent South of that line, but would not be so sure, as the effects of those causes disappear as you go south." What becomes of the causes after the effects have disappeared, we are not informed. This individual proposes to impart this information for sixty dollars, or thirty dollars each year for two years, or ten dollars a year for ten years; at the end of that time the key of the guide will be given; but all necessary information will be given before the seeding time of each year, etc." He oracularly says "this year is indicated by those causes to be an extreme one—either very large, or very small. Immediately after seeding time I will state which." Seeding time is past, but we have not yet seen the promised statement. This man may sincerely believe he can do what he professes; we do not, and advise our readers to remain incredulous and save their money.

HEIRS WANTED FOR A LARGE ESTATE.—One of the easiest ways to procure money, is to inherit it, and probably few persons have not at some time dreamed, either awake or asleep, of a fortune left for their enjoyment by some unknown relative. Occasionally such cases have actually occurred, and being duly set forth in the newspapers, have added stimulus to the imaginations of fortune seekers. Sharpers have not left this field unworked, and their circulars glitter with golden hopes for those longing for easily obtained wealth. One professes to keep a register of all unclaimed property in England, to which register, access is allowed for one dollar. Another requests all families of a certain name, say Smith, to communicate with him concerning a large estate to which the Smith family are heirs; of course a small fee is expected if particulars of the said estate are required. In one instance the promised estate was said to have been lying unclaimed in England one hundred and fifty years. There would be about as much probability of heirs in this country realizing from such a property now, as there would of recovering Pharaoh's crown by fishing in the Red Sea. The circulars containing such offers are worth something as material for lamp-lighters, or making over into new paper; to which use we commend them.

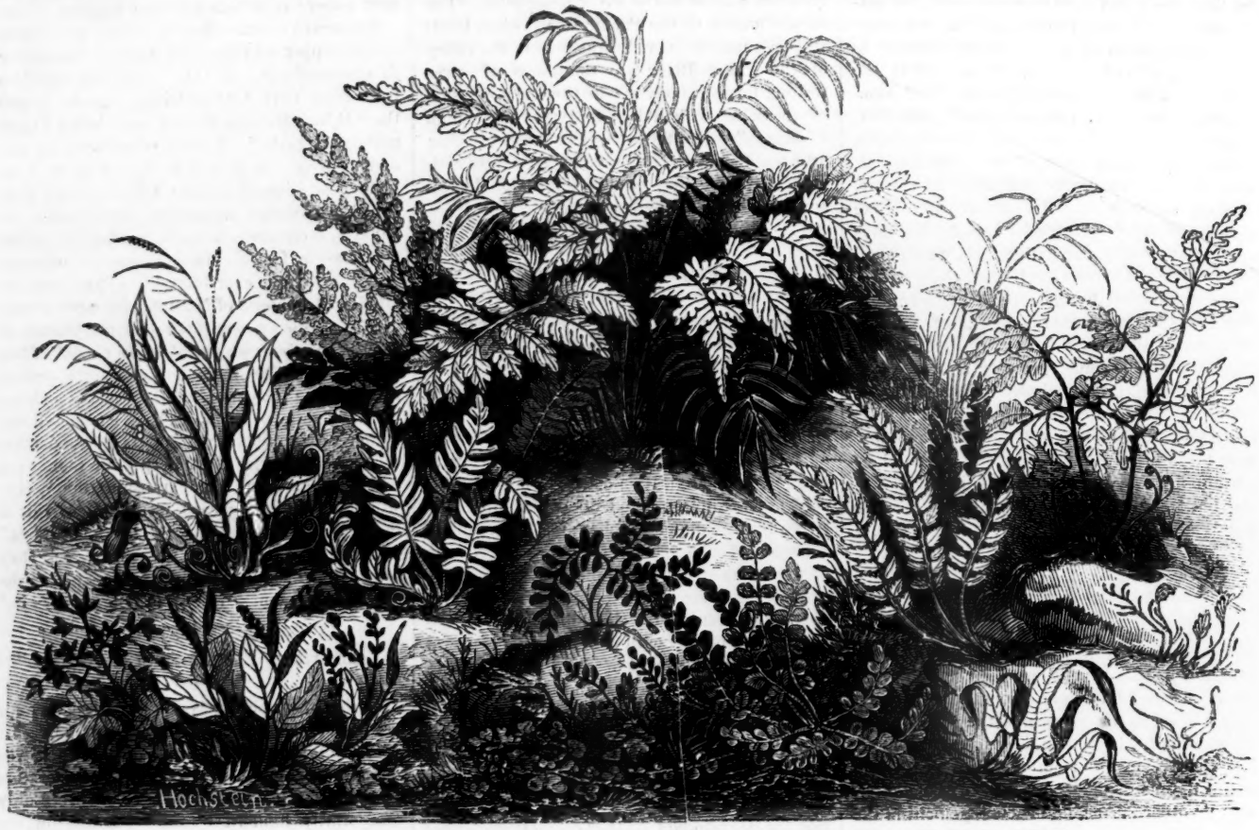
TRANSMUTATION.—Not of wheat into chess, but of copper and zinc into gold, or something that resembles it. A "Dr." sends out circulars from New-York City soliciting agents to sell the "British Metallic Mutual Association Transmutater's Guide." There's something in *that* name, surely. It is said to be the most complete exposition of ancient Alchemy ever published, "contains important information to bankers, merchants, farmers, mechanics, clerks, laborers—in fact the most important information to every one ever brought to light from the Hidden Storehouse of Nature, *being a sure fortune to all who possess a copy of this work, and practise, as laid down in the simple receipts in the Guide.*" Then for the inevitable one dollar extra, "a person may become a member of the Society and enjoy all rights, benefits, &c." We can tell the reader how to make two dollars in connection with this concern. Just keep your money; it will be clear gain: the "transmutation" consists in transferring cash from the pockets of the credulous to those of a "sharp practitioner." If any choose to invest in the scheme, will they please inform us *when* they are successful; we desire to be present "when the laugh comes in."

"American Farmer and Mechanic."

Perhaps an apology is due to our readers for not earlier denouncing this concern outright; we have hinted at it several times, but it was claimed by some that the more recent operators intented to fulfill their promises, and were only temporarily hinderd by the "hardness of the times, etc." Two or three numbers were issued last year, with the suspicious claim of being "an old established Journal." Then came out a January number, with large promises of the future, and private circulars to Postmasters and others, offering great inducements. We could not say these promises would not be fulfilled. The reputed publisher could never be found *in* when we called, or sent round, as we did frequently. Complaint after complaint continued to arrive, and we followed up the concern, with no satisfaction. To day (May 29) we went with one of the swindled Postmasters, determined to call to a prompt personal account whomsoever we might find in, be he clerk, boy or the "boss" himself. But the shop was shut up—occupied by another business—and to our inquiries through the building, the answers were, "gone down," "gone up," "gone off," etc.—When a responsible agricultural or horticultural paper, with a fair prospect of continuance, is next started hereabouts, we will announce the fact in the *Agriculturist*. Until then, better give a wide berth to these hundred and one new agricultural papers in New-York City, got up by parties who think it easier to make a fortune by gulling farmers, than by honest labor.

Treatment of Kicking Cows.

J. C. of Norfolk, Ct., says in a letter to the *Agriculturist*: "The following treatment, which I have tried for some years, has *never failed* to stop the evil. Put a strap around the body of the cow just in *front* of the bag and buckle rather tight. If the cow tries to kick, draw the strap a little tighter. She will never get used to it, and it never does any injury. She will keep on eating as usual, but has no inclination to lift her feet even to walk about." This may answer the purpose; the experiment is easily tried.



A COLLECTION OF AMERICAN FERNS.

Sketched and Engraved for the American Agriculturist.

Our Beautiful Native Plants—Ferns.

For grace and beauty of form, nothing can exceed the ferns of our woodlands. Every one who has walked in the woods with his eyes open, must have noticed these striking forms of vegetation. Some are found in the open fields and by the road-sides; others hang upon the face of the rocks, and others grow in the swamps; all are beautiful, but those of our damp and shaded woods are the most so. Their peculiar habit and graceful outline has made them favorites with the cultivator, and our green-houses frequently contain collections of foreign ferns, many of which are inferior in beauty and interest to our native ones. What can be a finer type of almost tropical luxuriance than the Ostrich Fern? What shows more beauty of finish than the Maiden-hair? What more graceful than the Climbing-fern, or more singular than the Adder's-tongue and the Walking-fern? Our artist has given a sketch which represents the general effect of a group made up of ferns. These differ from the great mass of our vegetation in many peculiarities. One of these is, that they produce no flowers or seeds, but grow from minute bodies, so small that they appear like dust, which are found in little cases; these grow in clusters or dots either upon the back of the leaves, or in a sort of cluster formed by a rolled up leaf. The engraving of the common Polypody (fig. 2) gives an idea of how these fruit dots appear, where they grow upon the back of the leaf, or *frond* as it is called. These are of different shapes, and are frequently covered by a sort of membrane. The separate spore cases are very curious. Fig. 3 represents one of the most common forms magnified. The right hand figure shows an entire one: a little stalk bears a case which has an elastic ring extending part way around it. When mature, the elasticity of this ring breaks open the case, and the dust-like spores fall out, as shown in the left-hand figure (3). These are individually very minute, and can only be seen, when a larger number are together, and are so light that they may be borne about by the winds to a great distance. The Adder's-tongue and others bear their spore cases on a frond which is rolled up so as to make a sort of spike; this is very simple in the Adder's-tongue, but in others it is much branched and looks altogether different. We can not, in a popular article like this, give all of the peculiarities which characterize the ferns, but recommend our readers to the descriptions and figures given in Gray's Manual. With a little care, these beautiful plants may be made to adorn a shady corner of the garden. They require moisture and drainage, and grow well upon rock work in a sheltered and moist place. A bank of soil two or more feet high, mixed with brick-rubbish and old mortar, is suited to the growth of most species, those which grow naturally in moist places being planted at the base of the bank, and others which like a drier soil, above. A mound of this kind covered with ferns will be one of the most attractive objects in the grounds. The damp loving kinds may be grown in a glazed case or under a glass shade, and make a beautiful ornament for the parlor. Some of the ferns of the green-house are beautifully variegated; the Golden and Silver-ferns add beauty of color to their elegance of form. The tree ferns, which are rarely seen in our hot-houses, found in South America, Van Diemen's Land, and other countries, are among the most beautiful and striking vegetable objects.

Fig. 2.

Fig. 3.

Rock Work

One of the prettiest things in the lawn or garden is a nice bit of rock work, imitating, as nearly as possible, what we often see in a rocky dell in the forest. We often come upon these things in our rambles in the woods, quite equal to any thing in the Ramble in Central Park, and wish we could remove them, rocks, plants and all to our own premises. We stop in our walk to admire the ease of the natural grouping. The grace of the ferns, and the beauty of the flowers make us wonder they have never been transferred to the garden. Many of them have been, and from want of studying their habits

and wants, have died. Few plants accustomed to grow in the deep woods, and in moist places, will live when transplanted to an open border in the garden. The shock is too violent. But if put in the shade, and planted in a good border of vegetable mold from the forest, most of them will live and flourish.

A shelter of evergreens makes one of the best screens for rock work, but the shade of any tree, or the north side of a building will answer, if nothing better can be had. If a spring or fountain is on the grounds, the rock work should be located near it, so that it can receive copious waterings at pleasure. No definite rules can be given for constructing these ornaments. They should not be merely piles of loose stones, or regular in outline. The larger the rocks, the better for this purpose, and the more irregular the better. The spaces between, may be partly filled with stones, and with vegetable mold from the woods. A great variety of plants, will thrive in such a location. Many of the ferns and mosses, of which we have a large number, will do well. Only the larger ferns should be employed, where the work is on a large scale. In transplanting, the more earth we remove with the plants, the more likely they will be to live. The club mosses with their long trailing vines and bright green shoots, are highly ornamental. In selecting the plants it is desirable to secure a succession of blossoms, from the early Spring to late Autumn. The Blood Root, (*Sanguinaria Canadensis*) comes early in April. It loves moist, shady places, and is often found growing in the clefts of rocks. The Wood Anemone blooms about the same time, and is found in the same localities. The Saxifrage, and Rock Geranium, or Herb Robert, are also desirable plants. The Partridge Berry, and Winter Green, or Checkerberry are even more beautiful for their leaves and berries, than for their blossoms. The berries are of a bright red, and hang on through the Winter. The trailing Arbutus, one of our most beautiful flowers, the Linnæa borealis, Blue Houstonia, Columbine, and many others will flourish in rock work. Health, pleasure, and instruction will come of this home made ornament.

Gravel Walks on Hill Sides.

Here is one of the hardest things to manage in ornamental gardening. It is easy enough to make them, but to construct them so as not to gully and tear up in heavy rains, is not a little difficult. A few hints are offered: Such walks should, of course, have a solid foundation of stones, and this should be covered with gravel or shale. To enable the walk to shed rain, have it quite well rounded over in the center. The central parts should also be pounded or rolled so smooth and hard that running water can make no impression on it. If the walk is not long or very wide, the water accumulating upon it may be shed off upon the adjoining turf. But to secure this, the channel of the walk must be filled up brimful with gravel. Where the walk is long and wide, and the hill steep, this can not always be done, and provision must therefore be made for carrying off the water in gutters. These may be made of small cobble stones laid neat and smooth, or of bricks. If stones are used, they should not be larger than a goose-egg, and should be fitted in a workmanlike manner. Provision should also be made for turn-outs at proper intervals, which may discharge the water upon the adjoining grass, or into cesspools, or under-ground drains. In our own experience, we find the above methods to answer tolerably well, yet they are not a perfect protection in violent storms. At such times, the water will fill up and surge over all the gutters and turn-outs, and tear the walks sadly. The only way we know of is to provide these remedies as effectually as may be, and then lay in a stock of patience against storms.

Since writing the above, we have met with the following in one of Loudon's works: He is describing the grounds of an English country seat:—"One practice at Redleaf is, that in every part of the garden, where the slope is considerable, the walks are paved with brick, and have brick or stone-edgings. Some great advantages result from this practice. The walks are never injured by rain, but rather improved by being washed clean. No weeds grow in them; they do not become soft with rain, nor powdery in dry weather. Gravel walks need renovating, trimming and cleaning every year or two, but brick walks if properly laid at first, with a solid foundation and good drainage, will last ten or twelve years without any repair whatever."

Layering Grape Vines.

This operation is very simple. Early in the Summer, take down a last year's cane from the trellis, and after making a trench near the vine, five inches deep and a foot or two long, lay down the cane in it, and cover it up with fine soil. The layer should be fastened down by pegs or by stones. Bring up the extreme end of the cane and tie it to a stake. In the Fall, if all has gone well, the layer will have formed a large bunch of roots at the point buried, when it may be severed from the parent vine, and planted. Latterly it has been found that most varieties can be multiplied faster than by this method. The plan is to spade up and enrich the soil all along the side of the vine. Make drills not more than *two* inches deep, and as long as the branches to be layered. Sprinkle a little sand in these drills. Now, lay down the canes in these shallow drills and peg them fast at every joint. Tie up a foot of the end of each cane to a stake. Such sorts as Rebecca, Logan, Concord, etc., will soon take root at every eye, and will also send up shoots from the same joints. As these shoots grow, a little soil should be drawn over the layers, and the shoots tied up to stakes. By careful management in this way, one can get about as many rooted plants as there are buds on each layered branch.

Grafting the Grape.

"L," St. Louis Co., Mo., writes to the *Agriculturist*, that he "has been very successful in propagating grapes by grafting. Two years since I purchased a Rebecca vine, with a stem a little larger than a darning needle. I trimmed off the wood to two eyes, and although the buds were swelled, I grafted the part cut off on a piece of wild grape root, and planted it in the open air. In a year after it was, and is now much better than the original stock. The Delaware, Rebecca, and some others, with me grow better on other roots than on their own. My method is as follows: Make as much bark meet as is practicable. Where the root is larger than the cion, split the cion, sharpen the root, and cut out a deep gash or wedge in the centre of the root between the two sides, leaving the bark undisturbed. In inserting the cion, bend or press the sides of the root, until the bark of the cion and root meet, then wind with soft twine, Furrow out the ground with a one horse plow, put fine chip manure about the plants, placing them about eight inches apart in the rows, and cover with common soil. Have the top of the grafts two or three inches above the level of the ground, and cover them out of sight one or two inches. If the season is unusually rainy and cold, place 6 inch boards on each side of the row, roof shape. When the weather is warm and settled, dig down to the buds, and leave them uncovered. If it continues very dry, cover the buds up, and let them find their way out."

Thinning the Leaves of Grapes.

One of the most absurd practices prevalent at this season of the year, is that of pulling off the foliage of grapes, in order (as it is said,) to ripen up the fruit. Those who do this say they can't bear to see the clusters so shaded: they *know* the sunshine would color them. And so they thrust right and left, covering the ground with green leaves. This is a great error. The ripening of fruit depends upon the presence and successful working of well-formed and healthy foliage on vigorous vines. The leaves are the lungs and stomach of the plant. Through them it breathes; by them it digests its food, and prepares nourishment for the fruit and the whole vine. Go to the sides of the forest, and you find the blackberry developing larger, and ripening up finer in partial shade than in the sunny field. Go a little further and you will find the wild grape growing luxuriantly and ripening perfectly where the sun seldom shines; certainly, where it never reaches the clusters, and where no one pulls off the leaves. Some of the handsomest clusters ever picked in our garden hung all Summer in the shade of leaves, and on the north side of the trellis-bar. The *leaves* had the sunlight all day, but the *fruit* did not. We have no doubt that one reason why the costly vineries of the country show so much half ripened fruit, is because the gardeners so perpetually meddle with the foliage.

Girdling Grape Vines.

This operation consists in taking out a ring or section of bark (say about an inch wide,) on the fruit-bearing canes. The effect of it is to enlarge the fruit above the girdle, and to give it the color of ripeness ten or more days before the usual time. It is an interesting experiment in vegetable physiology. It furnishes splendid specimens of fruit for horticultural exhibitions. But this is all we can say in its favor. The fruit itself is deteriorated for eating purposes, and clusters exhibited as fair specimens of the fruit, give an untrue idea of it.

Thin out Freely.

Two plants half developed are not worth as much as one which has had plenty of room to perfect itself. A much larger and finer crop of beets can be harvested if the plants are thinned to 8 or 12 inches, than if allowed to stand at 3 or 4 inches; and so with other crops—the distance of course varying for each. Not only will a larger yield be realized by thinning judiciously, but the quality of the product will be much better. So in the flower garden, the annuals are commonly sown very thickly, and left to crowd one another in a dense mass. For a few kinds this treatment will answer, but the majority will give greater pleasure if each individual has room to develop its beauty.

Summer Treatment of Fruit Trees.

Much of the work of the pruning knife can be anticipated by a little care during the growing season. Dwarf fruit trees, especially, can be kept in such a condition that they will rarely require much cutting. Buds tending to develop into superfluous branches may be removed altogether, and branches making too vigorous growth of wood may be shortened and induced to form fruit buds. If in the Spring we examine a shoot of a pear tree for instance, we shall find a strong terminal bud with lateral buds at intervals, and that those lateral buds are largest and best developed near the end of the shoot and that those lower down are gradually smaller. In the Spring the terminal bud starts to grow and prolong the stem; a few of the upper side buds produce shoots while the lower ones do not start at all. The buds near the extremities are the strongest and appropriate all the nourishment, while those below are starved. If in the Summer, while this shoot is forming, we pinch off the point of it, the supply of food which would have gone to continue its growth and form the strong upper buds, is directed elsewhere: the lower buds receive nourishment which they would not otherwise have had, and some of them will be likely to form fruit-buds. This pinching off the shoots to induce the formation of fruit-buds, is practised by all good cultivators upon their dwarf trees. They are thrown into bearing much earlier, and are made much more fruitful than when this is neglected. The time at which it is done will be determined by the season; whenever the shoot has made a growth of three to six inches, according to the vigor of the variety, it is pinched off by means of the thumb and finger, at the sixth leaf, counting from below. It often happens that a shoot stopped in this way, pushes again from the upper bud. In this case the second growth should be pinched back to three leaves. Summer pinching should be practised on young trees, to cause them to grow into proper shape. The upper branches of a young nursery tree, which has been cut back often, make such a vigorous growth as to overtop the leader: by pinching back these shoots, in time the tree may be brought into a proper conical shape. By timely pinching, the tree may not only be shaped at will, but be induced to bear fruit several years earlier than it otherwise would, and all cutting out of large branches be obviated.

Treatment of Orchards.

Many a farmer plants an orchard, and conceiving that he has done all that is required of him, takes no farther trouble with it until, in the course of years, there is fruit which needs gathering. Perhaps by the time his trees come into bearing, he has been induced to take an agricultural journal, and there learns that trees are pruned to render them more productive. Pleased with the little fruit he already has, he admits the necessity for pruning, and goes forth with knife, saw, and axe, and makes an indiscriminate cutting, and thinks he has pruned his orchard. Next year the trees bear less than the year before and he sets down all pruning as useless, and all agricultural publications as humbugs. It is for the benefit of just such people that this article is written—those who catch at a fragment and think they have the whole. To all who this season begin to give attention to their orchards we say: Never cut a limb unless you see clearly that something is to be gained by the operation. Look carefully at the tree and decide whether it will be better for any cutting, or if left alone. Do not cut unless the tree will be the better for it. If a limb grows in the center of the tree, where the fruit can not receive the influence of the sun and air, cut it out. If two limbs cross one another so that both will be chafed by the action of the wind, cut off one of them. Does a limb grow in such a direction that the tree will be thrown out of balance and grow lop-sided—off with it. Unless a limb is evidently useless or in some way injurious, it need not be removed. There are two extremes: one is to let the tree grow without any care, and the other is excessive and injudicious pruning—both are to be avoided. If the tree is doing well, let it alone; if disposed to make a too rampant growth of wood, more than can be thoroughly ripened, cut it back; but as a general rule be sparing of the pruning tools. If an orchard has been properly cared for *from the beginning*, the amount of annual pruning required will be very small; no tree ought to get so far out of bounds as to require anything more than the knife. Still there are many who have neglected their orchards, or who come into possession of old and neglected ones, where a severe pruning must be practised. This is the proper month in which to do it. The trees are now in full vigor, and an attempt will be made to heal over any wound made in pruning. If the limb to be removed is large, use a saw, set rather wide, and be careful that the limb in falling does not tear off a portion of the bark and leave a ragged wound. To prevent this, it is well to make an incision with the knife, quite through the bark at the place where the limb is to be sawed off. Do not leave long stubs, but saw close to the base of the limb. It is advantageous to cover the wound with a solution of shellac in alcohol; this may be made of the consistence of paste, and applied to the wound by means of a brush. In going over the orchard, remove all suckers and all those sucker-like limbs which in old trees are apt to spring from the larger branches. Apple trees will, where the Winter is severe, be benefitted by a summer pinching of the vigorous shoots; see article on summer pinching, on the opposite column.

Introduction of Fruit to England.

A book of the olden time published in London, in 1604, gives the following account of the improvement of the stock of fruit in England.

"One Richard Harris, of London, borne in Ireland, Fruiterer to King Henry the eight, fetched out of Fraunce great store of grafts, especially pippins: before which time there was no right pippins in England. He fetched also, out of the Lowe Countries, Cherrie grafts, & Peare grafts, of diuers sorts: Then tooke a peece of ground belonging to the King, in the parrish of Tenham in Kent, being about the quantitie of seauen score acres; whereof he made an Orchard, planting therein all those foraigne grafts. Which Orchard is, and hath been from time to time, the chiefe Mother of all other orchards for those kindes of fruites in Kent, and of diuers other places. And afore that these said grafts were fetched out of Fraunce and the Lowe Countries, although that there was some store of fruite in England, yet there wanted both rare fruit, and lasting fine fruite. The Dutch & French, finding it to be so scarce, especially in these countries neere London, commonly plyed Billings-gate, & diuers other places with such kinde of fruite. But now (thankes bee to God) diuers Gentlemen and others, taking delight in grafting (being a matter so necessary and beneficial in a Comon-wealth) haue planted many Orchards; fetching their grafts out of that Orchard, which Harris planted called the New-garden. And by reason of the great increase that now is growing in diuers parts of this Land, of such fine & seruiceable fruit, there is no need of any foraigne fruite, but we are able to serue (serve) other places."

Labels on Fruit Trees.

No one who has many fruit trees, should trust to labels for their identification, as they are liable to be defaced or lost altogether. Make a plan of the orchard or fruit garden, and mark the place of each tree, writing down its name. This, if kept where it can be readily referred to, will save a deal of trouble in ascertaining names when the tree comes into bearing. Our special object is to call attention to the trees planted this year. When the trees are labeled in the nursery, the wire by which the tag is attached, is usually bound closely around a limb or the body of the tree. If it was not loosened at the time of planting, it is probable that the growth of the tree has caused the wire to become so tight as to seriously interfere with the health of the tree. We have frequently seen young trees with the copper wire of the label completely imbedded in the bark. The trees should be looked over to see that no injury results from this cause. Where very small wire is used, the expansion of the tree breaks it and the label is lost. Use rather large wire and give plenty of room for growth. Lead wire is preferable to copper; it is very cheap, and will yield to the enlarging growth of the limb.

Summer Pruning of Hedges.

After hedges have reached nearly their intended hight, it is necessary to prune them in midsummer, in order to check their too vigorous growth. Yet this should be done with care. Too harsh use of the shears at this time stunts and often kills plants. Nature must have an outlet somewhere, and if forbidden, she rebels. And then, both as a matter of taste and expediency, it is unwise to give the hedge an absolutely smooth shearing. Better is it to leave some freedom and flow in the outline of plants, than to crop them very close. Better to clip in here and there, checking the strong growths for one year, and leaving the weak a chance to extend themselves a little. This will give the hedges something of the wavy outline of a symmetrical shrub, rather than the stiff appearance of a primly shorn wall. And, not least important, such a hedge will last much longer than one which has been too closely pruned.

The Chinese Wistaria.

To the lovers of flowers our city streets do not present many attractions, yet in the month of May we have walked through many streets to enjoy the Wistaria. It seems to be the favorite climber of the New-York people. It climbs along walls, hangs over balconies, mounts to the roofs, and sometimes to the very chimneys and hangs its great grape-like clusters everywhere. The plant often improperly called *Wisteria* and *Glycine*) is named in honor of Dr. Caspar Wistar, a late celebrated physician of Philadelphia. A native species is found in Penn-

sylvania and southward, but it is much inferior in beauty to the Chinese species, so generally cultivated, (*Wistaria Sinensis*). The plant is readily propagated by layers and by cuttings, and is a universal favorite. It is perfectly hardy in the climate of New-York, and would succeed, by laying down in Winter, in much less favorable localities.

A Strawberry Talk.

At the Fruit Growers' Meeting held at the office of the *Agriculturist* on June 5, the merits of the different varieties of strawberries were discussed. The meeting had an especial interest on account of the presence of Mr. J. Knox, of Pa., one of the largest, if not the largest, cultivators of strawberries in the country. Mr. Knox thought there were several varieties of strawberries, possessing great merit, which had been overlooked. He instanced the Fillmore as one of these. He considered it one of the best in his locality, but was well aware that the locality had much to do with the value of a variety. While Hovey's Seedling was highly prized at Boston, it was almost worthless at Pittsburgh. The Fillmore does not need to be frequently renewed, while Wilson's Albany does. The Wilson gives a few large berries at first, but the rest of them are small. The Fillmore gives a greater crop than the Wilson and is of better flavor. He has tested it thoroughly and has this year planted more of it than of any other variety, save Triomphe de Gand. He named as other good sorts: Golden Seedling, Comptesse de Thury and Duc de Brabant. The Triomphe de Gand fully sustains its reputation; taken all in all, we have nothing equal to it. Being asked to give a selection of the best six strawberries, Mr. Knox placed 1st, Triomphe de Gand, medium and late; 2d, Wilson, as desirable for canning or bottling; 3d, Fillmore; 4th, Baltimore Scarlet, early; 5th, Burr's New Pine, one of the best; 6th, Jenny Lind. The strawberry season used to extend over only two or three weeks. At Pittsburgh, they had prolonged it to seven weeks, and he had no doubt that it might be extended to two months. Trollope's Victoria does not bear carriage well, but it is good for home consumption. Kitley's Goliath is very large and late, but rather coarse. Brighton Pine has been said by the Pomological Society to be a poor bearer. Mr. Knox considers it one of his best bearers, and it has a fine spicy flavor. Scott's Seedling is very good; some parties prefer it to all others. There is a great variety of tastes to be consulted, and a cultivator must endeavor to suit all. The Moyamensing is good. We do not want merely good sorts, we want *the best*. A first rate variety takes no more room and costs no more labor in cultivation than a poor one. Mr. Knox intends to plant ten acres of strawberries each year. They are as easy to plant as cabbages.

Doct. I. M. Ward thought that many kinds would succeed well about Pittsburgh, which would not do well in other places. Hovey's Seedling is one of the best in the vicinity of Newark, N. J.

Mr. W. S. Carpenter objected to the Fillmore as it is a pistillate variety. Is testing Cutter's Seedling, and is thus far pleased with it. Among the new foreign varieties the Prince of Wales is a wonderful bearer and good. The Duc de Brabant is a favorite with him. He has tried some of Mr. Fuller's Seedlings for two years, away from the locality where they originated. He thought highly of Col. Ellsworth. The Brooklyn Scarlet is a splendid berry, being perfectly hardy and very productive, though the berry is not as large as some. Some white berries were of great promise: Lenning's White is perfectly hardy, of large size and good flavor: the White Pine Apple is nearly as good. Jenny Lind is a favorite at the North, being large and of a fine color: Iowa is too sour. Downer's is a wonderful bearer, but too sour. Bartlett is very fine, about as good as the Fillmore, and having perfect flowers, he prefers it to that variety. Empress Eugenie is one of the best, as good as Burr's New Pine. Princess Frederick William was loaded with fruit, early and fine. Scott's Seedling, not productive, insipid but sweet.

Dr. Ward stated that the Brighton Pine was not prolific with him, and had rooted it out on this account. Mr. Knox thought he could not have the true sort as it was a great bearer with him. Solon Robinson had thrown it out, it not being a good bearer.

Mr. Knox said that he never endorsed a strawberry until he had proved it by cultivating it for three years. He looked for progress and thought that perfection had not yet been attained. He might put one variety at the head at this meeting, and at another meeting would consider some other variety as superior. His views were constantly changing as he had more experience, and varied his modes of culture. When a bed begins to run out, after gathering the fruit, he lets the plants make all the runners they will. He then plows them under, adding stable manure, and puts strawberries on the same ground again. He considers a crop of strawberry plants equal in value to one of clover to plow under.

Dr. Ward stated that Mr. Winans had tried every variety known in this vicinity, at Newark, N. J., and had found the Boston Pine and Hovey's Seedling the most profitable sorts.

Mr. Knox thought that the best culture had not been reached in this vicinity, as he could send his berries here from a distance of 300 miles and sell them at 50 cents a quart at wholesale, and asked if we had the best kinds for this locality. Cutter's seedling he considered a fine berry, but not large enough, it is light colored and too soft to bear carriage to market.

Saving Seeds in the Garden.

Our cultivated plants seem to be in a condition of unstable equilibrium: on the one hand they tend to deteriorate, and on the other certain individuals seem disposed to attain to a higher degree of perfection. We do not, as a general thing, understand the causes which produce these results, except that for the most part poor culture produces the former, and good culture the latter effect. Most of our finest varieties of vegetables and flowers have been produced by a judicious selection, and if we would keep any variety in perfection, we must continue to select the best specimens to propagate from. "Like produces like," is a rule sufficiently general to be followed, and high breeding may be practised with plants as well as with animals. If we sow a large quantity of seeds of any variety of plant, a difference, and often a very marked one, will be noticed in the seedlings; such as vigor, early maturity, and superiority of product. In garden culture we pay too little attention to the saving of seeds; hence it is that we hear complaints of sorts running out, and the necessity for a frequent change of seed. It has been our custom, though often against our inclination, to save the earliest and finest of our cucumbers, melons, tomatoes, etc., for seed. Those who wish to keep their varieties good and even to improve them, will do well to follow this practice. Selection of the most desirable sorts for propagation is the great secret in producing the many improved kinds of vegetables. The variations are produced by hidden causes, and it is left for us to take advantage of them. Both in the vegetable and flower garden, let the seed be saved from those plants which present the most desirable peculiarities, and the chances will be that their good qualities will be perpetuated in the progeny.

Use the Kitchen Slops.

Just now the English agricultural papers are full of articles upon the use of sewage or waste of cities. Bringing this subject down to individuals, we might write a long article on the waste of the house, had not this subject been so frequently presented in the columns of the *Agriculturist*. Again we say allow no fertilizing material to go to waste. The water from the kitchen is rich in elements of fertility. The soap used in washing, pot liquor, salt, etc., are all needed by the garden, and will amply repay for the saving and applying to the plants. On many farms the sink spout discharges into a gutter, and the waste water is allowed to soak away or evaporate, and just along the edges of this gutter will be found a most luxuriant growth of weeds, showing plainly that the ground here is richer than elsewhere. Let the kitchen waste be collected in a sunken hogshead or cistern, and applied in a liquid form to the plants in the garden, or run it to a convenient distance from the house to an excavation which can be readily supplied with muck, which will absorb the liquid, and many dollars' worth of manure now wasted, will be annually saved.

Training Dahlias.

This most showy flower, the chief ornament of the garden during the early Autumn, requires constant care, unless we would have our hopes end in disappointment. Throwing up a vigorous and tender stem, its branches have so little strength that they often break with their own weight, and if not kept securely tied to a stake the main stem will be prostrated by strong winds. For all except the very dwarf kinds, stakes are needed, and some mode of training must be adopted. One method is, to tie the main stalk to a stake and take off the lower branches, to prevent their breaking off of themselves. This causes the plant to grow very tall, and gives but a comparatively small number of flowers. Another style, called the "tub" method, is to cut off the leading stem and allow four or more of the lower branches to grow, each of which is furnished with a stake. This plan secures a large number of flowers, but gives the plant a squatty appearance not in accordance with its natural habit. We have satisfactorily practised a method which combines these two methods of training. The main stalk is supported by a stake in the usual way, and all of the side shoots, except the three lowest ones are kept carefully pinched off; as soon as these lower shoots acquire a sufficient length they are supported by light stakes inclining outward from the plant. Trained in this way the Dahlia in flower presents a most showy appearance. Hoe around the plants frequently, apply liquid manure, and if a dry spell occurs, cover

the ground with some kind of mulch. Much of the success in flowering the Dahlia, depends upon careful tying. Every few days the new growth should be secured to the stakes by a tie of bass bark or a strip of cotton cloth. Care should be taken that the bands are not drawn so tightly as to impede free growth.

A Fine Old Plant.

Plants as well as other things are subject to the changes of fashion. Many of the old favorites of the gardens are neglected merely because they are old, and their places are occupied by others whose chief merit is their novelty. For ourselves, we love to see the flowers which we knew when a boy: they seem to us as old friends. How many of us look back with pleasure to days spent in the garden of our early home. Its treasures may have been only Sweet Williams, Pinks, Pæonies, and such old fashioned flowers, but they are dearer to us than any of the newer introductions, for they bring pleasant memories of the days of our youth. Such were our thoughts on receiving a bunch of Thrift, from Mr. A. S. Fuller of the Brooklyn Nurseries. He sent it to us, knowing our partiality for old plants, and we have had it engraved, believing that it will be a novelty to most of our readers. The plant is botanically *Armeria vulgaris*. It is a native of Europe, and a perfectly hardy perennial. The leaves make a dense mass of dull green foliage, against which the abundant pink or rose-colored flowers make a fine show. It is well worth cultivating as a bedding plant, but it is particularly valuable for edgings, for which it is much used in England, where it is considered as the next best plant to Box for this purpose. It is readily propagated by division of the roots. There is a white variety.

About Double Flowers.

Every cultivator of flowers has doubtless experienced a difficulty in reproducing double annuals from the seed. The double flowers are in an unnatural condition, and it seems that slight causes induce them to revert to their natural state of single ones. There is much relating to this subject that we do not understand. There are some plants, like the stock gilliflower for instance, the double flowers of which do not produce seeds, but the single flowers have a tendency to produce seeds, the majority of which give double flowers. In a "good strain" of stocks, as the gardeners term it, the tendency is to produce double flowers, with here and there a single one to continue the kind. The whole thing seems to be in a very precarious condition, which slight and little known causes will modify. Seed saved from the most double Zinnias, will give us a number of single flowers, while the China Aster, which seems to have its double character more fixed, rarely fails to produce double ones. We have before us two letters upon this subject. The first is from Carl Meinurth, of Rockingham Co., N. H., who commenting on the statement made at the bottom of the last column, on page 148 of May *Agriculturist* says: "Seeds from double flowers, which are not constant in reproducing double flowers again, must not be sown before they are one or two years old." To test his theory he suggests that we take a paper of seeds of any double flowers, and sow one half the seeds this year; perhaps one-tenth of the plants will be double and the other single. Next year sow one half of the remaining seeds, and one half of the plants, at least, will be double; finally, the third year sow the rest of the seed and quite probably all the plants will bloom double. He also suggests that the smallest seeds of the Balsam are more likely to produce plants with double flowers, than the full plump seeds.

Another correspondent, "G." gives his plan for procuring seeds that will produce double flowers thus: "Do not allow the plant producing seeds to mature all of them. Pick off one half of the flowers, and let the plant throw all its forces into the remainder. Give the plant itself every possible chance to make a vigorous growth before it forms its flower-buds. An annual flower, like the Aster, is more likely to give double flowers and seeds, if transplanted from a seed-bed, than if grown in the border where they were first sown."

Rake the Garden.

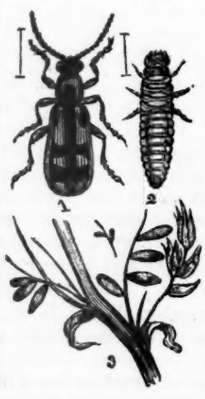
"L. G.," writes to the *Agriculturist*: "My garden is a light sandy loam. When it is spaded in the Spring and raked over, it is perfectly smooth and level. After planting I, like a certain kind of bird, cover up my tracks. As soon as the vegetables begin to appear, I rake over the ground—going backwards, meanwhile, "crab-fashion," leaving no tracks visible—so that many have said to me, "How is it you keep your garden so clean and smooth? If the garden is raked over weekly—not a weed can be seen, the ground is kept from drying up, in fact the loose surface, though perfectly dry, operates as a mulch. To one unaccustomed to this mode of gardening, it is perfectly surprising how much ground can be gone over, and effectually too, in a short time. Wrought iron rakes are better than steel, as the teeth do not suffer from rough usage. I have not taken a hoe into my garden for the last 15 years, as I can make "better time" with the rake, even among corn and potatoes. Certainly in beds of onions, etc., there is nothing equal to the rake; if the rows are not far enough apart for the rake, turn it a little sidewise. Whoever will try the above plan, I think "will irresistibly come to the conclusion" that, running over the garden with a rake (if the soil is light,) once a week, is true economy—much better than to wait till weeds *can be seen*. Very slight motion of the soil destroys the roots of weeds while they are so tender. While you can not *see such a victory at this time* as you could if the weeds were knee high, still it can be enjoyed full as much as though one could see "the slain lie heaps on heaps."

The Striped Bug a Night-Worker.

C. G. Siewers, of Campbell Co., Ohio, in a letter to the *Agriculturist* says: "I never could see how the few striped bugs found in the morning, could do the damage my squash, cucumber, and melon vines were daily suffering. One night last year, I lighted my lantern, and went to examine my vines. Let any subscriber afflicted as I was, do the same.—I found my vines covered with bugs, 50 pair on a leaf being nothing uncommon. With finger and thumb I slaughtered about a thousand in an hour, going over the vines twice; about 12 o'clock at night I visited them again, and found but a few stragglers. Next night I went once more, in the hope of seeing no more bugs, but found that there was no apparent diminution of the enemy. I slaughtered them wholesale every night for two weeks, and then gave up in dispair. In an adjoining patch I had a fine lot of late cucumbers coming along—very thrifty, and untouched by the bug, and without thinking of the consequences, I tore up all my squash plants, finding they would never set any fruit, and threw them into the manure heap. The next morning my entire cucumber patch lay wilted and destroyed, looking as if a heavy frost had cut them down; every leaf appeared chewed up. I have not planted any this year."

The Asparagus Beetle.

This insect, which has caused such destruction in Europe, has already become established in some localities in Long Island and New-Jersey, where it promises, if its ravages are not checked, to ultimately destroy the asparagus crop. Fortunately the insect is thus far confined to a few localities. As it can only be exterminated upon its first appearance, we give figures of it in its several stages, in order that it may be at once recognized and promptly dealt with. The beetle is known to entomologists as *Crioceris asparagi*, and has a general resemblance to the striped bug which infests cucumber and melon vines. Fig. 1 is a drawing of the perfect insect magnified, which makes its appearance during the month of May. A line near the figure shows the natural size of the beetle. The eggs are little brown oval bodies, singularly attached in rows upon the slender twig of the plant. Fig. 3, shows the eggs, both of the natural size and enlarged. The eggs shortly hatch and produce grubs or larvæ which greedily devour the asparagus shoots. Upon the first appearance of this dangerous enemy, no pains should be spared to exterminate it. The beetle should be picked by hand and destroyed, and all twigs upon which eggs are deposited should be burned. A brood of young chickens will be of great aid in destroying these and other insects. The hen should be confined in a coop and the chickens allowed to range over the bed.



THE HOUSEHOLD.

Vegetables for our Soldiers.

Perhaps there is no deprivation incident to a soldier's life, greater than being obliged to do without the ordinary vegetables. To be able to appreciate the value of potatoes, turnips, etc., one should be obliged to go without them for a few months. We have been where oranges, bananas, figs, and other tropical fruits were abundant and ridiculously cheap, and would have given them all for a good mess of potatoes. From their bulk and weight it would be impossible to supply a large army with fresh vegetables; but our government does the next best thing, it furnishes an occasional issue of carefully dried vegetables. Col. Eaton, the Commissary at this post, sends to the army one hundred and thirty five thousand pounds a month, of a mixture of dried or dessicated vegetables. We were much interested in a visit to the works of the American Dessicating Company at Brooklyn, L. I. This company furnishes the largest share of that supplied to the soldiers of our army, and has ample machinery and facilities for its operations. The compound sent to the army, consists, in every 100 lbs. of

20 lbs. dried Potatoes.	22 lbs. dried Turnips.
22 lbs. dried Carrots.	10 lbs. dried Cabbage.
10 lbs. dried Onions.	5 lbs. dried Tomatoes.
5 lbs. dried String Beans.	1 lb. dried Parsley.
5 lbs. Rice.	Pepper, etc.

This mixture is packed in cakes of seven lbs. each. It is an excellent article for a vegetable soup, or will make a nice dish of mixed vegetables. The drying is performed by exposing the sliced vegetable upon trays in chambers heated by means of steam pipes. A bushel of potatoes is thus reduced to 10 lbs., and other vegetables, containing a larger amount of water, weigh still less in the dried state. We were particularly impressed with the neatness which was observed in the establishment—much of the work being performed by women. The company has a separate contract for their dessicated potato, of which a large quantity is sent to the army. The potatoes are first cooked, and then granulated and thoroughly dried. They form an excellent article of food, and must be exceedingly welcome in camp. Mixed with sufficient boiling water, a nice dish of mashed potatoes can be prepared in a few minutes.

Drying Fruit and Vegetables.

There will soon be an abundance of the products of the garden and field, a share of which may be dried for Winter use. Now when there is an unusual demand for such things for the use of our brave soldiers in the hospitals, our patriotic women will prepare an increased quantity of these delicacies for the sick and convalescent. Persons connected with the Sanitary Commission inform us that there is no limit to the demand for dried berries, apples, peaches, and other fruits, and dried sweet corn and other vegetables are always acceptable. Where the quantity to be dried is small, it may be done on pans or trays placed in the sun and occasionally put into the stove oven, the doors being open. It is considerable trouble to put out the vessels when the sun shines, and bring them in at night, or on the approach of a shower. Where there are hot-beds, this labor can be saved by using a hot-bed frame and sash. The articles to be dried can be covered with the sash at night, which can be wholly or partly removed during the day. Where a large quantity is to be dried, it will be better to depend entirely upon fire heat. We have used successfully a very simple contrivance, a common wood stove, with the pipe running across the room about two feet from the floor. About a foot above the pipe a rack holds the trays upon which the article to be dried are spread very thinly. The stove being an "air-tight," a very little wood serves to keep the room at a high temperature. The trays most recently filled are placed nearest the stove, and gradually moved along as the drying progresses, to be succeeded by others. Ventilation is to be secured by letting down the upper sash of a window. The fruit or other material should be spread very thinly at first, and the early stage of the drying should be pushed as rapidly as possible, to prevent souring. When partly dry, the contents of two or more trays may be united, and thus save room. When the fruit, etc., is nearly dry, it absorbs moisture rapidly, and should not be exposed during damp weather. Pack on a dry day. *

An Old-Fashioned Musical Instrument.

The above engraving will not be without interest to many readers of the *Agriculturist*. In thousands of minds it will awaken memories of early days, when the pleasant hum of the wheel was heard in almost every farmer's dwelling, when few young ladies thought themselves fit candidates for matrimony before a bountiful stock of homespun linen had been provided by their own industry for furnishing bed and board. "Ah! those were the days of healthy women, good housekeepers, and happy homes," exclaim those who remember only the golden hours of the past. "In those times, the music was worth something. Its notes brought money to the pocket, as well as pleasure to the ears; piano playing and spinning street yarn furnish but poor substitutes for the useful work that employed our grandmothers." It is no doubt very pleasant to look upon the past, mellowed by the light of years until a poetical tinge covers the picture, but the present is more than a realization of the dreams with which many a weary maiden beguiled the hours of toil imposed by the necessity of providing clothing entirely by hand labor, in addition to the other household duties. The ingenuity of man has disenthralled woman from a large measure of drudgery, and given her the opportunity to become something more than a mere working machine. It is doubtless true that many misimprove the leisure bestowed by the progress of manufactures, but this need not be, nor do we believe that, as a whole, the female sex have deteriorated either morally or physically, since their labors have been lightened by the introduction of machinery. It is certain that the average standard of female education is higher than ever before, and reliable tables of mortality prove that the duration of human life has been lengthened several years during the last century. That is a low view of life which regards as its object only the accumulation of outward possessions. True wealth consists in development of the faculties of the soul, in an eye educated to appreciate beauty, an ear to enjoy harmony, a refined taste to derive pleasure from art, as well as an intellect to grasp truth, and a hand to achieve outward results. He is not wealthiest who possesses most of this world's goods, but he who knows how to extract most enjoyment from his surroundings; and the resources of happiness are abundant to the cultivated and refined. The common people of the present day are far richer than the nobles of old, for general culture now is superior to what was then thought to be high accomplishment. And more than this, by means of improved methods of manufacture, the day laborer is now better housed, clad, and fed, than were many princes of old.—The days of old and their appliances are not to be despised. They bequeathed much of strength and of excellence, but they were only the root and the leaf which were to nourish the flower of the present. A return to them would be like the cutting of an immature plant, forcing it to repeat the slow labor of preparation for seed bearing, the end of its existence. A striking illustration of this truth is furnished by events now transpiring. One of the "relics of barbarism" a state of society deeply rooted in past ages, and which like a pestiferous weed, yet remained amid surrounding culture, has borne its legitimate fruits, and we are in the midst of a desolating war, itself almost a type of the olden time, when might made right. The fruits of peace are being rapidly destroyed. At the South, the hand spinning wheel, and loom are again furnishing "homespun," and it may yet be necessary for Northern women to revive this almost obsolete art. Thank God, they are not incapable of the task when it shall be necessary, yet who will say that this would be a national benefit?—For many reasons we revert to the past with pleasure, but never with longing eyes. We remember that the higher glory of the race lies ever forward, and rejoice that so many steps have been taken toward its attainment.

Tim Bunker on Keeping a Wife Comfortable.

"How long have we got to wait for dinner, I should like to know?" said Jake Frink to his wife Polly, one day in hoeing time. "Its tu bad to keep three men waitin' an hour for their grub."

"You've got to wait till the brush is cooked, with which to cook your dinner," said Aunt Polly snappishly. "None but a green-horn would furnish green-wood for his wife to cook with—and green brush at that. You know, Jake Frink, that you have never had a second cord of wood at your door any time since I have lived with you, and that is going on seven and thirty years. All that time green brush has been the chief article of kindling. One might think that your whole farm was a brush pasture teetotally. I should like to have you try cooking with green wood a little while, and see how you would like it."

"Wall Polly, hurry up any way," said Jake, "for we are all mighty hungry, and the corn want's hoeing badly. You see brush is economical, and what I can't sell at the store, I can use at home. It would kind o' rot on the ground ef I dident burn it up."

"Pretty economy it is, to keep your wife in a stew all the while, and hired men a waiting hours every day because green wood won't burn. It is smoke, siss, and fizzle from morning to night, and I no sooner get a blaze agoing, than I have to put on more green wood, and then there is another sputter. I never see such a house as this is," said Aunt Polly, with great emphasis, and with a face as red as a beet.

Jake is a great sinner, although he thinks he is so good that he does not need to go to meeting and hear Mr. Spooner preach. He would try the

temper of a much more saintly woman than Aunt Polly, and keep her on the rack. He might just as well put red pepper in her eyes, as to keep her kitchen always smoked up with green-brush. Her eyes always look red, and it is nothing under the sun but that smoky kitchen. The draft of the chimney is none of the best, but that would be remedied with well seasoned wood. Now you see that man had christian marriage, but he don't care no more for his wife than for a dumb animal. I guess he would lift a sheep out of the ditch, especially in these times, when wool is a dollar a pound. But he keeps his wife in the ditch about all the while, and never suspects that she is a bit uncomfortable. He thinks he saves something by burning brush, but it don't pay unless you have a machine to chop it up fine, and keep it under cover until it gets dry. To work it up with the axe into fuel for a stove, it costs more than it is worth. If it lies on the ground in the woods, it rots and makes good manure without any expense. Then if you have it, or any other wood green, there is a matter of uncertainty about meals, which throws the whole work of the farm into confusion, and puts every body out of humor.

But this is only one way in which a wife is kept uncomfortable. It does seem as if some men took less care of their wives than of the dumb cattle in their fields. If the rooms in their houses had been thrown together by chance, they could not have been more inconvenient. A good arrangement of the rooms saves one half the labor. Some times the sleeping room is on the second floor, and there is many a journey up and down stairs during the day for a woman already overburdened with care. Sometimes the store room is in the garret, and other journeys have to be made daily, for supplies for the table. Every thing that she needs for her work should be upon the first floor, and close at hand. There is no unnecessary waste of strength then in filling her place as housekeeper, cook, dairy maid, laundress, wife and mother, for many a farmer's wife is expected to fill all these offices, and to be always cheerful and happy, waiting for the coming of her liege lord, as if she had nothing else to do but to be a wife.

The lot of a farmer's wife, as it generally runs, is rather a hard one, and is made hard very often from the want of attention to little things. If a man needs twenty cords of wood for the year, it costs no more to get it in the Winter, in a time of leisure, and to have it chopped, split and packed under cover, than to get it, a load at a time, and have the torment of a slow fire all the while. This not only makes more labor, but it frets and worries, which is a good deal worse than work. Dry wood is one of the secrets of a comfortable wife. That is what makes Mrs. Bunker so hale and handsome, past sixty. She says she wouldn't know how to keep house without dry wood. I guess she wouldn't for she has never had any thing else.

Deacon Smith is a good man, and means well, but he does not know how to use a wife. His well has hard water, that won't wash, and all the water on washing day has to be brought from the brook, more than forty rods from the house. To be sure he keeps a servant, but it makes a world of work for servant and housekeeper. He might have a cistern that wouldn't cost twenty dollars, and it would save more than that value of labor every year. He has roofing enough to keep it supplied with water all the while. And then the Deacon carries on a large farm and keeps a half dozen hired men, and boards and lodges them all in his own house. Now what a burden this brings upon a woman, when they might be much better accommodated in small farm houses of their own. It is quite as easy to hire a part of the labor needed on the farm, from those married, as from those who have no homes of their own. This leaves a farmer's wife with no family but her own to attend to, which is much more pleasant.

Then I guess a man has to do something to himself as well as to his house, to make every thing go smooth with his wife. She bargained for a man when she got married, and she has a right to be disappointed, if she finds she has nothing but a working animal always jaded and unfit for social life. I know of some farmers who rarely go any where but to meeting and to market. They feel that they can not afford the time to dress up and go and see their friends and dine, or take a cup of tea. They have so slid out of society that their friends rarely come to see them. They are so hurried with work that they do not make friends very welcome. They seem to have no appreciation of life, but as an opportunity to make money. They prize work for this end, and time that isn't turned into money is lost to them. Their muscles not only become hard, but their hearts grow hard and unsympathizing. They lose their taste for reading, if they ever had it, and very soon fall asleep if they attempt to read, or hear reading. If they are active in the field, they are stupid and dull in the house, like tired animals in their stalls. There is no mental growth, no development of manhood in their lives. This discovery I think makes a woman more uncomfortable than green wood, and smoky fires. She married a man—a creature of intelligence and affections—and she has the right to the companionship of a man while she remains a faithful wife. No man has a right to prostitute himself to mere money getting, no matter how honestly, or to turn all the energies of his being to muscular exertion. Manhood is the most precious product of his farm, and whatever else suffers, *that* ought to be kept strong and vigorous. That article has become mighty scarce on Jake Frink's premises, and it is this fact that makes the green-wood so very green, and the smoke so trying to Aunt Polly's eyes. Poor woman! I shouldn't wonder if there was something else in them besides smoke sometimes.

Hookertown, June 6th, 1863. } Yours to command, TIMOTHY BUNKER ESQ.

For the American Agriculturist.

Bargain-Hunting Poor Economy.

"See what a splendid bargain I made yesterday," said one of my neighbors who was exhibiting her purchases during a recent shopping expedition. "Only two shillings a yard, and they asked two and six at every other store." "But Mrs. W., I thought you had previously bought a Summer dress for your daughter," I mildly suggested. "Yes," was the reply, "she was fitted up, and it cost not a little to do it, I can tell you; but then this was *so cheap*, I could not bear to leave it. It will come good next Summer." "And very likely be so out of the fashion, that the daughter will not be willing to wear it," thought I, but politeness forbade me to say it. "And here is another real bargain," continued Mrs. W., "I never can get my husband to look out for the boys, and so I have to buy even their boots and shoes. Those boots I got for two dollars, when they were asking two and-a-half every where else." One look at the articles was enough to show even to my unpractised eye, that they were made of a poor quality of split leather, cheap indeed in price, but costly enough in every other respect. The first walk through a wet pasture would soak them like a sponge.

Mrs. W. had committed the two errors which "bargain hunters" usually fall into, and against which I would warn those of that class who may read the *American Agriculturist*. First, she bought what was not needed, because it could be had cheap. The fabric was apparently worth more than the price paid for it, but the money laid out might all have been saved for that season at least, and thus it was really so much out of pocket. Mrs. W. could not be sure that the same goods might not be purchased at a great reduction the following Summer. Fashions change rapidly, often in a single season, and they largely control prices. In any case Franklin's old rule holds good; "What is not wanted, is dear at any price."

The second error of Mrs. W. was in supposing an article cheap, because it was sold at a low price. Occasionally through stress of times, or by dishonest dealing, goods are sold at less than their value. In the first instance it is not according to the highest morality to take advantage of the necessities of another, and in the second, the purchaser becomes a partner to the dishonesty, although it may be unwittingly. But leaving morality out of the case, in the long run, it will be found unprofitable to purchase the lowest priced articles. If it be groceries, they will probably be adulterated or injured in quality, or of short weight; the latter dishonesty is largely practised in cities, where active competition tempts to unscrupulous means whereby others may be apparently undersold.

Perhaps the place of greatest temptation to bargain hunters is at auction sales. I have frequently seen housekeepers return from a vendue in the country, loaded down with articles which could be of no possible use, purchased because "they went so cheap," to be stored in the lumber room until another vendue should consign them to some equally eager buyer of cheap wares. Let not the masculine readers of this part of the paper flatter themselves that this failing is peculiar to our sex. Are they not often entrapped at mock-auction shops in the City, and do they not frequently buy cheap tools for use on the farm, which cost more in poor execution, loss of time, and frequent repairs, than would twice pay for the best implements in the market? The old rule "Spend not when you may spare, but spare not when you must spend," will be found reliable for both sexes, and I commend it to the consideration of all who may be afflicted with the mania for cheap bargains. M.

How to Trap Rats.

A correspondent "W," writes to the *Agriculturist:* "Last Winter rats made their entry into my dove-cot, and in spite of efforts to destroy or banish them, they soon eat up my carriers, tumblers, fantails, and pouters, beginning on about ninety, and leaving seven. I read books and obtained advice from friends with an eager desire to save my favorite birds, but neither various poisons nor *baited* traps banished or caught a rat for consolation. Now however, I feel free from the cunning creatures, as for the past two weeks I have seen no new traces of their existence, and it is about two weeks since I caught the tenth rat, which now graces my outhouse wall, with a nail through his head. Thinking that a rat when frightened was neither cautious nor cunning, I placed a common pressure spring, unbaited trap at the entrance of a rat hole, and *hid it* with a sprinkling of earth and light feathers. The next morning I had a "large" rat, and had no more birds taken. Eureka! Again I tried my plan, where a new hole appeared, for the floor being of earth, I filled every other hole, and the trapped rat by his struggles had filled the one at which he was caught. I trapped another—another, and again another, and until the tenth, which I trust is the last. In watching the rats prowl about, I noticed they were frequently alarmed, when they hasted into a well known retreat. They emerged carefully, but did not return so. I find therefore that a hidden trap in the path is pretty sure to catch, which a baited trap will not do. I know that this method is not always convenient, but one rat less is a national blessing in these times."

Cooking Vegetables.

A subscriber asks us how to cook Cauliflower. Boil it in water for twenty minutes or until the stalk is perfectly tender, drain and pour drawn butter over it. Some persons boil it in milk and water and think that it improves the flavor. This inquiry reminds us that too little attention is paid to cooking vegetables. The common "boiled pot" of the farm kitchen, where salt meat is cooked with a variety of vegetables, can be improved upon. There are very few vegetables that are not injured, to our taste at least, by being cooked with salt meat. Spinach or beet greens make but an indifferent dish when cooked with meat, but boiled by themselves, and then chopped and dressed with butter, they are delicious. All greens should have the water drained or squeezed out of them before they

are sent to the table. Cauliflower has its delicate flavor entirely destroyed by being cooked with meat. Simply boiling vegetables renders them eatable, but a little care in cooking and dressing them will make a delicious dish. Carrots are seldom seen upon the table, yet there is no vegetable that we prefer to nicely cooked carrots. The root should be cut into small pieces, not larger than a filbert, and then stewed with a little water, so that by the time the carrots are done, there will be but a little left; butter, salt, and a little flour are added to make a gravy, or what is better, cream may be used. Let those who like carrots at all, try this method of cooking them, and they will thank the *American Agriculturist* for the hint.

Preserving Tomatoes.

"L. G.," writes as follows: On page 183 of the June No., you speak of boiling down tomatoes one half. Now, if that is the way you do, Mr. Editor, though for several years I have been a subscriber, (a paying one,) and an admirer of your paper, still I shall never make a special pilgrimage either to "pick a bone" with you, or to eat your tomatoes. Much cooking of this fruit destroys not only its flavor, but leaves a pultaceous mass, hardly recognizable by its taste or appearance. As my wife has a more excellent way—so we think—I will describe it. Put the tomatoes into a large dish; then pour on boiling water so that the rind or peel can be more readily taken off. After which, squeeze a good part of the juice out of the tomato while it is in the hand; then cut into 2 to 4 pieces according to size. Cook for a few minutes until well heated through; bottle, using no corks, thick drilling only, cemented on the under side, put on mouth of bottle and pressed down and tied. Then with a spoon dip on the wax (rosin with a little lard) until the top is covered; when cool, set in cellar and exclude the light. Prepared in this way, you will get the real, *genuine flavor* of the tomatoes when cooked, nearly equal to those just picked from the vines.

Parched Corn Meal.

Among the various uses to which our great American cereal can be put, the "Medical and Surgical Reporter" gives the following: "Any one who has travelled over the western prairies, is undoubtedly familiar with the kind of food named at the head of this article. The mode of preparing it is to parch the corn, reduce it to meal, and add a due proportion of sugar. Provided with this simple article of diet, the Indians, hunters, and trappers of the West will travel hundreds of miles, a very small quantity in bulk sufficing for many days. It is, withal, exceedingly palatable, and is usually mixed in water when eaten.—This would be an excellent addition to the rations of our soldiers, taking the place of both flour and coffee. A small quantity of it will go a great way, and its use would economize money, time, bulk, and weight, all considerations of importance—the three last, especially so in rapid army movements." [The preparation described above, forms under the name of *Pinole*, a large share of the rations of the Mexican army, and is much used as an article of food by the Mexican people generally. When travelling in that country, it often was our principal food. We have often wondered why it was not introduced into our army, for the use of detached expeditions; it is very nutritious and requires no cooking: stirred with a sufficient quantity of water to form a kind of gruel, it satisfies both thirst and hunger.—ED.]

How To Draw Tea.

"L," of St. Louis Co., Mo., writes to the *Agriculturist:* A few years since, the writer took tea with a relative, and was delighted with the quality of the beverage. Upon enquiry, it proved that the article was from the same package used by another friend, whose tea always tasted miserably, and the difference was wholly owing to the methods used in its preparation. The last named person followed the usual plan of pouring boiling water upon the tea, which causes the most of the aroma to escape with the steam. The other friend adopted the following process, which I have since practised, and would recommend: Pour tepid or cold water enough on the tea to cover it, place it on the stove hearth, top of tea kettle, or any place where it will be warm, but not enough so as to cause the aroma to escape in steam. Let it remain about half an hour, then pour on boiling water and bring to the table.

Hints on Cooking.

Graham Bread.—Communicated to the *Agriculturist* by Frances K. Hurlbut, Fond du Lac Co., Wis. For enough to make two loaves, take three pints of warm water (sweet milk is better) one teaspoonful of salt, a tea-cup two thirds full of good hop yeast, and make a sponge as in fine flour bread. Keep in a warm place, and when light, work in a piece of pulverized soda the size of two peas, and Graham flour to make it just moist enough to cleave to the dish. Let it rise again in the same pan; when very light, sprinkle flour on the moulding board and mould into two loaves: when this rises again, bake from fifty to sixty minutes. The Graham flour requires soda when it is unnecessary for fine flour bread. Add three tablespoonfuls of molasses in making the sponge, if you think it improves the flavor. Persons with weak stomachs should not eat this bread until it is at least 24 hours old.

Chicken Pudding.—Contributed to the *Agriculturist* by N. E. Anderson, Franklin Co., Pa. Beat well 10 eggs, add 1 quart rich milk, ¼ lb. melted butter, pepper and salt, stir in as much flour as will make a batter. Take 4 young chickens and cut them up, then put them in a sauce pan, with salt and water, thyme and parsley. Boil these until nearly done, then take them out, and put them in the batter, and bake, and send up the gravy in a separate dish.

Baked Apple Pudding.—Contributed to the *Agriculturist* by G. W. Patterson, Clinton Co., Pa. Pare and core sour apples and fill a deep dish with them, adding a little water; then take flour with a little salt, saleratus, and shortening, (proportions as for soda biscuit,) and stir in buttermilk to the consistence of a thick batter, and spread this over the apples and bake. Serve with sauce to the taste. This makes a very nice, light pudding, good for dyspeptics.

Pound Cake and Fruit Cake.—Contributed to the *Agriculturist*, in answer to Mrs. Pry, by Susan North Barney. Stir 1 lb. of butter and 1 lb. of granulated white sugar until they form a cream. Beat the whites of 1 lb. of eggs (9 large or 10 of common size) until they will remain upon an inverted plate; stir these with the butter and sugar, then add the yolks also previously well beaten. Mix with this 1 lb. of flour, 1 small teaspoonful of saleratus, and flavor with lemon. After stirring the whole well together, pour it into two basins well buttered, and with white paper in the bottom. Two-quart basins with perpendicular sides are best.

Fruit Cake is made in the same way, except that good brown sugar is used instead of white, and there are added 1 lb. figs sliced, 1 lb. currants, ½ lb. citron, and 2½ lbs. of the best kind of raisins. The currants need washing thoroughly, and the seeds should be removed from the raisins. Flavor with nutmeg, cloves, cinnamon, and lemons, as desired.

Frosting.—For a half pound loaf. The whites of 3 eggs, beaten until they will remain upon an inverted plate; to which add pulverized white sugar, a little at a time, until of the desired consistence. After spreading it on the cake, set in a warm oven to dry; when thoroughly dried, spread on another layer and dry as before, until of the required thickness. [We will try to get a "Frosting Recipe" from one of *the* housekeepers in time for another paper—at least her frosting has a peculiar lustre, as we have seen it.—ED.]

Use for Broken Cakes.—Contributed to the *Agriculturist* by "L. A. M." Cut the pieces in thin slices, lay in a deep dish, and pour over it a custard made as follows: Beat the yolks of 3 eggs with 2 tablespoonfuls of sugar, add 1 pint of milk and season as liked. Put it in a covered pail, set in a kettle of boiling water: when it has *thickened*, stir in the whites of the eggs beaten to a froth, then pour on to the cake. Soft molasses ginger cake is very good treated in this way. Several kinds of cake may be used in the same dish.

Sponge Cake.—Contributed to the *Agriculturist*, by Mrs. I. S. Kaler, Lincoln Co., Me. Beat 6 eggs, yolks and whites together, 2 minutes. Add 3 cups white sugar and beat 5 minutes; 2 cups flour with 2 teaspoonfuls cream tartar, beat 2 minutes; 1 cup cold water with 1 teaspoonful soda dissolved in it and beat 1 minute; the grated rind and juice of a lemon; a little salt and 2 more cups of flour, and beat 1 minute. Observe the time exactly, and bake in rather deep cup pans. This will make 3 quite large sheets, and it does not dry quickly as most sponge cakes do. [What if some folks beat twice as slow as others?]

Currant Jelly.—The following method was recently recommended at a meeting of the N. Y. Farmer's Club. Pass the currants between rollers so as to burst each currant, and press out the juice. (Any other method will answer to break the fruit, but this is most convenient.) Place the juice in a perfectly clean copper or brass vessel over the fire, and heat it slowly until it simmers, being careful not to permit it to boil, or much of the aroma of the currant will be lost. Skim the juice until the scum ceases to rise; then pour the hot juice on to loaf sugar broken, and placed in a wooden vessel. Stir it until the sugar is melted by the hot juice, then pour into tumblers or other convenient vessels; when cold, it will be found thickened to a firm bright colored and high flavored jelly.

Rhubarb Wine.—Trim off the leaves and grind and press the stalks in any cider mill. To each gallon of juice add one gallon of water and six pounds of refined sugar, and fill the casks, leaving the bungs out. A moderately cool cellar is the best place to keep it. Fill up occasionally either from juice kept on purpose, or with sweetened water, so that impurities which rise to the surface while fermentation is going on, may be worked off. When sufficiently fermented, which will require from one to two months, bung tightly and let it remain until Winter, when it may be racked off into other casks, or bottled. Some persons refine it before bottling, by putting into each barrel two ounces of isinglass dissolved in a quart of wine.

Sweet Pickled Tomatoes.—Contributed to the *Agriculturist* by Mrs. J. Rice, Lapeer Co., Mich. Take smooth, half ripe tomatoes, scald and peel them, place them in a small-necked jar, keeping them whole. Scald vinegar and sugar together the same as in pickling for peaches, pour it over the tomatoes to cover the fruit, of which the jar must be full. Then set it in a boiler of hot water and let it boil till perfectly heated through, and then cover and seal up. They are nice either with or without spices.

Cheap and Good Prepared Glue.—Contributed to the *Agriculturist* by "L.," St. Louis, Mo. Dissolve common glue in cider vinegar, as thick as may be wanted. As it becomes too thick from time to time, add vinegar. This is as good as any that can be purchased.

Starching Bosoms and Collars.—A "Jersey Farmer's Daughter" sends to the *Agriculturist* the following directions: Pour a pint of boiling water upon two ounces of gum arabic, cover it and let it stand over night; in the morning pour it carefully from the dregs into a clean bottle, cork it and keep it for future use. A tablespoonful of this gum arabic water stirred in a pint of starch made in the usual manner will give to lawns, either white or printed, a look of newness, when nothing else can restore them after they have been washed. To every pint of starch, add a piece of butter, lard, tallow or spermaceti candle the size of a chestnut.

The Self-Important Grasshopper.

"A Grasshopper larger than a load of hay! Monstrous! Why Mr. Artist, have you not made a great blunder?" Not too fast, young friends; our artist is seldom caught napping, and even then he usually dreams something worth thinking about—let him speak for himself. He says the picture tells the old story of a grasshopper who happened to be upon a load of hay, when the horses coming to a soft spot in the meadow, stopped and seemed unable to draw it any further. The insect observing this, chirped out "I see I add too much to the weight upon the wagon, and I will therefore jump off," which he accordingly did. Just then the driver whipped up the horses, and by a great effort they took the load out of the mud, and went on easily. "See," said the grasshopper, "how much I helped them, surely the farmer ought now be willing to give me pasture the remainder of the Summer." The grasshopper in the picture is drawn of a size to show how large he thought himself. Probably the artist was thinking of something besides grasshoppers when he drew that sketch. Perhaps he had lately seen some pert youngster, who thought himself of more importance than father, mother, and all the rest of the family, who was always ready to give his opinion and advice, and who seemed to think the world could not very well move without him. Such characters are found among both young and old. The picture brings to mind an anecdote of a celebrated minister, who was on one occasion much annoyed by a busy, little, self-important man, who endeavored to draw him into a controversy. "Sir," said the little man, "what sect do you think I belong to." "Judging from your size, and the noise you make, I should think you belonged to the *in-sects*," replied the clergyman. If on some occasion any of you should begin to put on consequential airs, and some one present should pleasantly address you as Mr. Grasshopper, you will probably be reminded of this picture and its lesson, and be careful not to assume too much importance in presence of those who happen to read the *Agriculturist*; and as their number is so large, it will be safer to always be modest and unassuming, especially as such deportment will make you welcome in any desirable society.

Ponto and the Mink.

A. H. G. contributes the following to the *Agriculturist*:—Ponto was a faithful old dog; one of the good kind that never killed sheep, nor annoyed his neighbors by sneaking around their doors. He was very jealous too about his master's premises. Minks and muskrats found no home around the "Hill side" goose pond. He was led to regard them as his special enemies. One made holes in the dam, and the other destroyed the ducks and goslings. When Ponto barked, we always knew that there was something wrong. One day, however, while all were busily engaged in making hay, his well known call was heard. There was danger of a thunder storm, and no one could be spared to answer it at the time. For more than half an hour we listened to his prolonged bow-wow-wow. This at length ceased, and in a few minutes was changed into a most piteous and smothered howl. All said that the old dog had found something, but no one could go and inquire what it was. Noon came and then at intervals only could we hear his smothered cry. The boys could stand it no longer, and when the dinner hour sounded, Dan. and Henry went down to the pond. Guided by the wailing yelps they soon found Ponto, his head and fore-shoulders buried in a hole. As the boys came down and he heard their footsteps reverberating over him, his tail assumed its accustomed wag, and a little motion of his hind feet showed that he was making an effort to draw himself out. This however, was only followed by a more piteous howl. "What could be the matter?" Henry said—"something must hold him. Perhaps an otter." Whenever they attempted to pull him out he only howled the louder. Dan. at length commenced digging down with a stick, where he judged Ponto's nose would be. He had gone nearly through, and was pushing away the earth carefully, when the dog, bleeding and covered with froth and blood, drew himself out and fell almost exhausted into the water. There was no mark about his jaws, but on opening his mouth, his tongue was found bitten through in the center, about an inch from the end. The conclusion at which we arrived was this. He had found the mink that had destroyed so many goslings, and driven him into a hole. The boys knew that it was a mink by the smell. Becoming tired of barking when no one answered, he determined to sit down and watch his prisoner. For this purpose he stretched himself out half way in the hole that he had dug, panting with heat, and his tongue hanging out of his mouth. While in this position, the mink watching his chance, seized him. For the remainder of his life poor Ponto bore the marks of that unhappy day. Often have we distended his jaws with pride to show the scar. He never barked afterward, however, without receiving an answer; nor did he ever fail to do his duty when a mink showed himself on the premises.

A Church-going Dog.

A gentleman on Long Island owned a dog that regularly accompanied the family to church on Sunday, and also to the meeting held on Wednesday evening. If, however, for any reason none of them attended the service, the dog would start by himself, take his place where his master was accustomed to sit, and remain until the benediction was pronounced. This occurred rather frequently one season, and the sexton thinking his room better than his company, one day kicked him out. The dog immediately started for another church about a quarter of a mile distant, took his place inside near the door, and remained a regular attendant at his new place of devotion until his death, which occurred recently. The writer can vouch for the truth of this incident.

The Devoted Sparrow.

An observing correspondent of the *Agriculturist*, "A. H. G.," relates the following incident as throwing some light on the question proposed on page 153, (May No.) as to whether birds return to their old haunts in the Spring. He says: "Last Summer a Hedge Sparrow was observed one morning pecking at the basement window, and apparently trying to get in. His strange actions excited the interest of the house-keeper, and her benevolent heart immediately suggested that he must want food. When, however, crumbs were offered, he refused them with disdain—only ruffling up his feathers like a turkey cock, and hopping away until the window was closed, when he would return. Some minutes after his first appearance, the housekeeper was obliged to go up stairs, where she discovered on the mat in the hall, the ends of two wings and some feathers, very much like those upon the stranger at the window. The mystery was now explained. The cat had caught the poor sparrow's mate and he had followed her crying to the house. Day after day, and hour after hour—until the snow fell—did he appear at the window. He would not be driven away. The housekeeper was obliged to pin a paper over it for a time for his continued pecking made her nervous. From morning until night, he was there—when not at the window, usually on a bush beside it—only going away at intervals for a few minutes to feed, and then returning. When the window was left open, he would come in, and had it not been for the kindly interference of the housekeeper, himself would have shared the fate of his companion. It is only a few weeks since he returned again to his old place at the window. The snows of Winter had only disappeared when he came back. Time has not made him forget his bereavement, nor the place where it occurred. He still runs along the grating outside and picks each pane of glass as he passes and repasses. There can be no doubt that he sees his own shadow in the glass and thinks that it is his mate. He is still alone. For the past hour I have watched him go and return at intervals of a few minutes, to follow his old habit of picking at the window. From this I am led to think that birds do return to their old haunts yearly; that in many cases they may mate for life; that there are *widowers* among them, for our devoted little friend is of the male kind. However this may be, such affection seems to prove that there is something in a sparrow akin to love.

Boys' and Girls' Garden—No. 4.

Our young friends, having carefully read the preceding chapters, understand quite well how the plant increases in hight, and they have watched with interest the building up of story after story, each consisting of a piece of stem and leaf or pair of leaves. But they have noticed that the plant does not continue to increase the main stem to an indefinite hight; other stems or branches, appear on the main stem. The branches grow precisely in the way that the main stem did, only instead of being fixed in the ground, they spring from the stem at the point where the leaf joins it. Branches generally appear at the place where the leaf is united to the stem. This point is called the *axil*, and anything that comes in this place is said to be *axillary*. The branch first appears in the axil of the leaf as a bud, which elongates and produces a branch in just the same way as the embryo which was in the seed, grew and formed the original stem. As the branches grow from the axils of the leaves, it follows that plants with alternate leaves will have alternate branches, and one with opposite leaves will have the branches opposite. That this is so can be seen by comparing the manner of branching of the Tomato with that of the Four O'clock. We have thus far described only the root, stem and leaf,—these being all that the plant needs to enable it to grow. But sooner or later the plant produces flowers and seed, by which it can reproduce its kind.

Flowers, which we all love so much, are of such varied form and color that most persons think the study of them must be very difficult. You have already seen how leaves vary from a very simple form; so with flowers; if you examine some simple flower and understand all its different parts, you will have a good idea of the general plan upon which all flowers are made. This plan admits of a wonderful variety, to be sure, but it only adds interest to the study to trace out these variations. The reason why we selected Flax as one of our plants for illustration, is because its flowers are readily understood, and are sufficiently large for the parts to be seen without the use of a magnifying glass. As the Flax runs up to flower the leaves gradually become smaller, and soon little buds appear, each borne on a short stem, and these after a while, open into flowers. Having the flower of the Flax, let us now examine its plants. We have had engravings made to help the description, but it is much better to have the real flower. Beginning at the bottom of the flower we find five little green leaves, much like the upper leaves on the stem: these together form the flower cup or *calyx*, as seen in the unopened flower in fig. 16. Each one of the separate leaves of the calyx is a *sepal*. Just inside of the calyx is the showy part of the flower, the *corolla*. This, like the calyx, has five distinct leaves, or parts, called *petals*, which are much unlike other leaves, being more delicate, and of a different color and shape. The calyx and corolla together are the *floral envelopes*; they surround, and in the bud completely envelop the other parts, which being small and not very showy, are not generally noticed, yet they are the most important parts of the

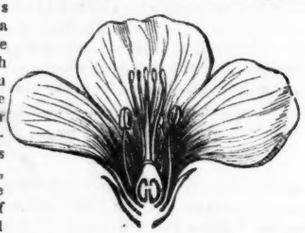


Fig. 15.

Fig. 16.

flower. The flower has some other use than to gratify our senses; its real purpose is to produce seed, and this is done by the parts we are about to describe. If you look closely at the center of the flower, you will see two rows of little yellow bodies. These can be seen much more distinctly if you pull the calyx and corolla off very carefully. Fig. 17, represents a magnified figure of the flower after the floral envelopes have been removed. We find that there is an outer row of five parts called *stamens*. Fig. 18, shows the appearance of a separate stamen much more enlarged, showing its stalk or *filament* bearing an oval case or box, the *anther*, which, by the time the flower opens, bursts by two slits in its sides, and lets out a very fine powder, the *pollen*. Remove all the stamens, and the *pistil*, fig. 18, will be left exactly in the center of the flower. This consists of a roundish lower portion, the *ovary*, having five slender stalks, the *styles*, each of which bears a little knob or *stigma*. The ovary or lower part of pistil is hollow and contains *ovules*, which are little bodies that will by and by become seeds. If you have a magnifying glass you can see the ovules. Cut a flower open lengthwise with a sharp pen-knife through the center, and you will be very likely to divide the *ovary*. The ovules will be seen as little green pulpy masses. If you can not do this you must be satisfied with the representation given in fig. 15. In this figure the ovary in the center of the flower is cut through so as to show two of the ovules. These ovules would never ripen into seeds if the pollen from the anthers did not fall upon the stigmas. This in some way, which we can not explain, exercises an influence upon the ovules and causes them to grow and finally become seeds. The stamens and pistils being such important parts in the production of seed, are called the *essential organs* of the flower. If the corolla or both this and the calyx were absent, as they sometimes are, the flower could still perfect seed, but neither the stamens nor the pistils alone can produce seed. Now then, let us briefly repeat the parts of the flower: 1st, The Calyx, composed of sepals: 2nd, The Corolla, with its separate petals: 3d, The Stamens consisting of filament and anther: 4th, The Pistil, with its ovary, styles and stigmas. The parts are one within another in the order in which we have named them, and as shown in the picture of the flower cut open in fig. 15. The corolla, stamens and styles, soon fall away, leaving the calyx and ovary. The ovary enlarges and becomes the seed pod, fig. 19, which, when ripened, will be found to contain seeds just like the one that was planted, and which, if put into the ground, would repeat over again the growth and flowering which we have described. There are some other things about the Flax flower which should be noticed: The parts are nearly all in fives; there are five each of the sepals, petals, stamens, and styles and stigmas, and twice five seeds. Then again, the different parts are regularly placed with relation to one another: the petals are not directly opposite the sepals, but opposite the spaces between them—are alternate with them, so the stamens alternate with the petals, and the styles with the stamens. There is then a regular plan for the Flax flower, a definite number for each set of parts, and these parts are put together in a particular way. If you will study this flower you will have a good idea of the plan upon which flowers are made, and although other flowers will look very different, yet knowing what parts to look for, and what their position should be, you will soon be able to understand their structure. Our other flowers will show some of the most common variations from the structure of the Flax, and we will try and tell you about them next month.

Fig. 17.

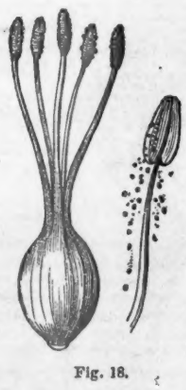


Fig. 18.

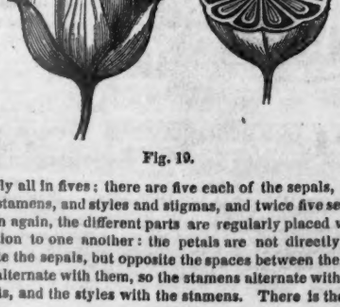


Fig. 19.

Frightening Herself to Sleep.

The nurse of a little girl used to frighten her when being laid in bed, by telling her that if she did not keep quiet, the rats would come and bite her; and the child dared scarcely stir for fear of the threat. On one occasion she was taken to visit friends in the country, her nurse being left behind. On her return a few days after, she was asked how she managed to get to sleep at night. "Oh," said she, "I sat up in the bed and said 'Rats! rats!' until I was so frightened I trembled all over, and then I covered myself right up, and didn't dare move again, and went right to sleep.

New Puzzles to be Answered.

No. 44. *Illustrated Rebus.* A truth worth remembering.

No. 45. *Curious Sentence.*—Contributed to the *American Agriculturist*, by "W. G. W.," New-York City. A teacher speaks with authority to one of his pupils; calls him by name, directs him to execute a lesson; designates what is to be done, and enjoins him to do it correctly. For this he uses in all, only four plain English words, and they are all sounded precisely alike.

No. 46. *Arithmetical Problem.*—Contributed to the *Agriculturist*, by P. C. Reed, Bond Co., Ill. A. and B. agree to do a piece of work, each to work as many days as the other. A. is to receive $22 and B. $28, of every 50. It happened that A. worked but 137½ days, while B. worked 187½ days. They receive for the work $270; what is each man's share of it?

Answers to Problems and Puzzles.

Answers to Problems and Puzzles in June No. (page 183). No. 40. *Illustrated Rebus.* "Many a slip between the cup and lip." No. 41. *Illustrated Rebus.* "When the cat's away, the mice will play." No. 42. *Mathematical Problem.* One should have 91 3-7 acres; the other, 68 4-7 acres. No. 43. *Riddle.* A Hat.

The following have sent in correct answers: the numers indicate the problems answered by each.

Wm. J. McManigal, 37; N. S. Barnum, 37; J. M. and F. A. Boyle, 37; "Constant Reader," 37; John Wilson, 38; Ellen F. Cole, 37; S. R. Walkups, 38; H. H. Bayley, 37; Mary E. Greely, 37; E. M. Kellogg, 37, 38; Eleanor Risdon, 37, 38; Jesse H. Carter, 37; John F. Holmes, 37, 38; J. B. Bardwell, 38; Stephen A. Brown, 37; Orlando P. Vaughan, 37; N. E. Melick, 37, 38; Augustus Reipsteck, 37; M. H. Barnard, 37; S. Shepherd, 37, 38; E. S. Lyon, 37; George Wistarkirke, 37; John F. Holmes, 37, 38; W. W. Dickey, 37; S. A. Dickey, 37; Bernet K. Melick, 37; Alice Ross, 37; W. A. Vaughan, 37; Walter A. Carpenter, 37; G. T. Clark, 38; Plutus, 37; John W. Van Deventer, 39; W. H. French, 37; L. O. Gay, 39; C. R. L., 40, 41; S. S. Doolittle, 41; Fred. A. Maltbee, 41, 43; Lydia E. Newberry, 37; Isaac McGay, Jr., 40, 41, 43; Twiford S. Noble, 41, 43; H. M. Johnson, 40, 41; G. W. Venall, 40, 41; John N. Fithian, 42; James Williamson, 41, 43, Henry B. Strong, 42; Lemuel G. Carpenter, 40, 41; Richard Humpback, 40, 41, 43; James Argus, 41; L. O. Gay, 42; Fanny J. Minor, 41, 43; Haller Bayley, 41, 42, 43; Isaac T. McLain, 42; Lucy R. Weeks, 41, 42, 43; Robert G. Weeks, 40; George F. Week, 40; Wirt C. Williams, 41, 42; Samuel A. Williamson, 43; G. L. Stevens, 43; W. H Mendenhall, 42; John P. Ratcliff, 42; J. H. Nicholson, 41; Willie H. Paine, 41, 42, 43; Albert D. Rust, 40, 41, 42, 43; George Bushong, 43; Hoosier Alice, 41, 43; (It is not necessary to send drawings for proposes rebuses); J. A. and J. E. Smith, 41; "Loirgus," 42; John Kostenbader, 42; Cornelius Hoagland, Jr., 41, 42, 43; Oliver Coombs, 41; Willie N. Barnard, 40, 41, 43; Daniel S. Carver, 40, 41; Jesse Wright, 43; Alice P. Talbot, 37, 40, 41; Laura E. Barnes, 40, 41; Wiley McCaughey, 41, 42; J. M. and F. A. Boyle, 40, 41, 43; Maggie Dale, 41; Albert Siewers, 40, 41; H. H. Stryker, 40, 41, 43; William Wyckoff, 41; O. B. Surface, 41; Maggie H. Haggerty, 41, 43; Isaac D. Thorp, 40, 41, 43; Mary A. E. Nichols, 41, 42, 43; Temperance Carr, 41; A. T. 41, 42, 43; Emily E. Alcott, 40, 41, 43; Bernet Kennedy Melick, 41; George Elcock, 42; Nellie Spink, 41, 43; W. L. H., 41, 42; W. Ward, 40, 41; James Gardiner, 42, 43; W. F. Penniman, 41.

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J. BODINE THOMAS.

Williamsport, Pa., May 7th, 1863.

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The Markets.

AMERICAN AGRICULTURIST OFFICE.
New-York, Friday Morning, June 19, 1863.

1. TRANSACTIONS AT THE NEW-YORK MARKETS.

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
25 days *this* m'th	569,000	3,162,000	3,204,000	27,000	58,000	1,610,000
26 days *last* m'th	347,000	540,000	596,000	45,000	51,000	410,000
SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	
25 days *this* month,	375,000	3,256,000	3,631,000	82,000	56,000	
26 days *last* month,	349,000	783,000	1,839,000	102,000	91,000	

2. *Comparison with same time last year.*

RECEIPTS.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	*Oats.*
25 days 1863	569,000	3,162,000	3,204,000	27,000	58,000	1,610,000
28 days 1862	594,000	4,280,000	1,920,000	43,900	110,000	415,000
SALES.	*Flour.*	*Wheat.*	*Corn.*	*Rye.*	*Barley.*	
25 days 1863	375,000	3,256,000	3,631,000	82,000	56,000	
28 days 1862	697,700	5,337,000	2,612,000	185,500	81,000	

3. *Exports from New-York, Jan. 1, to June 17.*

	Flour. Bbls.	*Wheat. Bush.*	*Corn. Bush.*	*Rye. Bush.*	*Oats. Bush.*
1863	1,950,048	5,475,508	4,089,591	262,622	108,583
1862	1,261,118	5,912,421	5,946,825	799,186	30,887

4. *Receipts at Albany, from the commencement of Navigation, to June 9.*

	1861. Canal opened May 1.	1862. May 1.	1863. May 1.
Flour, bbls	113,000	185,200	181,300
Wheat, bushels	3,998,300	5,234,100	3,360,400
Corn, bushels	2,824,100	1,977,700	3,978,200
Barley, bushels	99,700	317,100	49,500
Oats, bushels	859,400	542,500	1,067,700
Rye, bushels	68,600	209,900	43,500

The receipts, sales, and exports of Breadstuffs have been quite heavy during the month, as had been anticipated at resumption of navigation on the canals and rivers of the interior. The export demand was active during most of the month, encouraged by the favorable market reports from England; but, toward the close, buyers were less disposed to operate, unless at prices much under those claimed by holders, in view of the depression in the gold and foreign exchange markets, the rise in rates

on freight, and the great trouble with the stevedores and longshoremen (loaders of ships), who, having made a "strike" for higher wages, refused to work, and did everything in their power to prevent less exacting laborers from filling their places. This trouble continues without abatement, and very seriously impedes shipping operations. The Scotia, from Liverpool, arrived here on Monday, bringing reports of very fine weather, promising crops, and falling markets in the West of Europe. This news had a depressing effect on the markets here, and with the rapid decline in Gold and Sterling Exchange yesterday, holders were eager to sell, and purchasers less willing to operate. Prices close lower than a month ago, and with a strong downward tendency....Cotton fluctuated materially, but closes rather firmly at 57c @ 58c ℔ lb for Middlings, with a moderate inquiry....Wool opened heavily at drooping prices, in the absence of buyers, who had gone into the country to make purchases, but having partially returned, during the past two weeks, business has been more active, particularly in domestic fleece, and at more regular rates..Provisions have been quite plenty and have declined. The demand has been mainly for hog products. Butter and Cheese having been in very limited request ...Hay and Hops have been in fair demand, while Seeds and Tobacco have been quiet, without any remarkable changes in prices....Petroleum has been freely offered and purchased, mainly for future delivery, at irregular prices.....Business in most other articles has been quite limited. The following table will show the present prices and the changes from last month.

CURRENT WHOLESALE PRICES.

	May 20.	June 18.
FLOUR—Super to Extra State	$5 30 @ 6 50	$4 75 @ 6 05
Superfine Western	5 30 @ 5 60	4 75 @ 5 00
Extra Western	6 05 @ 9 50	5 50 @ 9 50
Extra Genesee	6 40 @ 8 25	6 10 @ 7 75
Super. to Extra Southern	6 65 @ 9 50	6 25 @ 9 50
RYE FLOUR—Fine and Super.	3 40 @ 5 40	3 40 @ 5 25
CORN MEAL	4 20 @ 4 60	4 25 @ 4 55
WHEAT—All kinds of White	1 65 @ 1 75	1 60 @ 1 75
All kinds of Red	1 20 @ 1 55	1 17 @ 1 55
CORN—Yellow	75 @ 82	78 @ 81
Mixed	75 @ 78	75 @ 78
OATS—Western	70 @ 72	78 @ 81
State	70 @ 72	80 @ 81
RYE	1 00 @ 1 03	1 03 @ 1 05
BARLEY	1 20 @ 1 40	1 00 @ 1 25
BEANS—per bushel	2 00 @ 3 15	2 00 @ 3 15
COTTON—Middlings, per lb	56 @ 57	57 @ 58
HOPS, crop of 1862, per lb	16 @ 24	15 @ 22
FEATHERS, Live Geese, p. lb.	46 @ 53	43 @ 50
SEED—Clover, per lb	8 @ 8¼	8½@ 9½
Timothy, per bushel	Nominal.	2 00 @ 2 25
FLAX, per bushel	Nominal.	2 45 @ 2 60
SUGAR—Brown, per lb	8½@ 12¼	9 @ 12½
MOLASSES, New-Orleans, p.gl.	40 @ 53	38 @ 50
COFFEE, Rio, per lb	30 @ 33	28½@ 31½
TOBACCO—Kentucky, &c, p.lb.	14 @ 32½	12½@ 31
Seed Leaf, per lb	12½@ 42½	12½@ 42½
WOOL—Domestic fleece, p. lb.	63 @ 87	60 @ 80
Domestic, pulled, per lb	68 @ 85	48 @ 75
Wool, California, unwashed	25 @ 50	22½@ 50
TALLOW, per lb	11 @ 11¼	11 @ 11¼
OIL CAKE, per tun	Nominal.	37 50 @45 00
PORK—Mess, per bbl	12 00 @14 12½	12 75 @13 00
Prime, per bbl	10 75 @12 50	11 50 @11 75
BEEF—Plain mess	9 50 @11 75	9 75 @11 75
LARD, in bbls, per lb	9¾@ 10¾	9¾@ 10¾
BUTTER—Western, per lb	12 @ 16	16 @ 19
State, per lb	16 @ 23	16 @ 22
CHEESE	8 @ 14	8 @ 11
Broom Corn—per lb	9 @ 10	8 @ 10
EGGS—Fresh, per dozen	14 @ 15	15 @ 17
POULTRY—Fowls, per lb	12 @ 14	9 @ 12
Ducks, per lb	14 @ 17	16 @ 18
Geese, per lb	7 @ 10	6 @ 8
Turkeys, per lb	12 @ 15	8 @ 10
POTATOES—Common, p. bbl	1 00 @ 1 25	75 @ 1 00
Peach Blow, per bbl	1 37 @ 1 62	88 @ 1 12
Mercers, per bbl	1 75 @ 2 25	1 12 @ 1 40
Nova Scotia, per bushel	40 @ 45	40 @ 45
TURNIPS—Ruta baga, per bbl.		75 @ 1 00
ONIONS, Red & Yellow p. bbl.	2 50 @	2 50 @ 3 00
APPLES, Russets, per barrel.	2 50 @ 3 50	2 00 @ 3 00
Apples, common, per bbl	3 50 @ 3 75	1 50 @ 2 00
DRIED APPLES, per lb	4 @ 6	3 @ 6
DRIED PEACHES, per lb		15 @ 16
STRAWBERRIES, choice, per qt. box		15 @ 20
CHERRIES, per lb		10 @ 14

N. Y. Live Stock Markets.—The Cattle markets have been well supplied with beeves during the past month, the weekly receipts ranging from 4,600 to 5,400, and averaging 4,800. Trade has been very good and prices remarkaly uniform, the variation amounting to only ½c ℔ lb. The State of Illinois is supplying *four-fifths of all the stock sent to this market.* Prices at the latest sales were: for prime steers, 11½c to 12c ℔ lb. for estimated dressed weight of the four quarters. Medium to good cattle, 10¾ @ 11½c; poor cattle 9c @ 10c.

Veal Calves.—Weekly receipts 1,092 for the past month. Prices higher than for several years past; good fat calves quick at 7½c @ 8c ℔ lb. live weight.

Sheep and Lambs are selling remarkably well, at high prices. The receipts have averaged only 6,797 per week, farmers keeping an unusually large number for breeding, as they find them the most profitable part of stock raising under the present rates. Sheep are now all sheared, and command 6c @ 6½c ℔ lb. live weight, if in good condition. Poor sheep are worth 5½c. Lambs bring about 10c ℔ lb. live weight, on an average.

Live Hogs—Receipts 10,694 per week; prices 5¾c @ 5¾c ℔ lb. live weight, corn-fed; and 5c still-fed.

Advertisements.

Advertisements to be sure of insertion must be received at latest by the 15th of the preceding month.

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All kinds of Government and other Securities. Orders from the Country for purchase of Government Bonds, etc., attended with care and Promptness.

SNUG FARM FOR SALE.—70 acres with good House, Barn and Well—light soil, no stones; 5¼ miles from Saratoga Springs—Price $1,500 including crops, stock and implements. Title unexceptionable. Enquire of CHAS. EDMONDS, 80 Nassau-st., New-York.

FOR SALE—3 Large Farms, 5 Timbered lots, Woolen Mill, Water Power and Village Property in La Grange Co., Ind. Terms easy. For particulars, address S. B. JENKS, Ontario, Ind.

155 ACRES partly improved land for sale, rich clay loam, beautiful situation, convenient to Canal, Mills, &c. JAMES REID, Odessa, Henry Co., Ohio.

GRANVILLE (OHIO) FEMALE COLLEGE.—Twenty-ninth year will begin Sept. 10th. The highest educational advantages are afforded in Intellectual, Physical, and Moral Culture; also in Vocal and Instramental Music, Painting, and Drawing. Charges are reasonable. Send for a Catalogue to W. P. KERR, A. M.

STRAWBERRY CULTURIST.

NEW EDITION.

Contains names and synonyms of all the noted strawberries of the world; fully illustrated. Price 10 cents.

A. S. FULLER, Brooklyn, N. Y.

FRUIT AND ORNAMENTAL TREES.

RARE CHANCES OFFERED.

200,000 Choice Fruit Trees, Vines, etc., for sale, of varied size to suit customers.

The subscriber calls attention to his unusually large stock of well grown trees now on hand, and especially to the present stock of the STANDARD FRUIT, APPLE, which is the largest and finest ever offered at these Nurseries.

With twenty years of experience, by careful observation and judicious selections, he believes he is able to judge and furnish what will suit his customers, as well as the varied soils and localities, in which trees may be wanted. There is also special attention paid to local varieties, adapted to Southern and Central Pennsylvania, many of which have proven themselves more valuable, than sorts originating in a climate differing so widely from these sections.

He is also preparing a list of CLUB PRICES for those who purchase direct from the proprietor, offering rare inducements for neighbors to join together and get trees considerably under the regular retail prices.

This mode is adopted for those who may not have an opportunity to purchase from his regularly authorized agents, and hold a mistrust towards the too numerous tree venders spread over the land.

☞ The frequent use made of his name and establishment by strangers, to effect sales where the reputation of the nursery is known, compels him to warn all not to purchase —as coming from these Nurseries—stock offered by PRETENDERS, who do not hold an authority from the proprietor.

Local or stationed agents will be accepted, but neither traveling nor stationary agency inquiries will receive notice, unless the parties produce satisfactory reference as to their honesty in dealing with customers and employer. Send for Catalogues and priced List, which contain inducements not before offered by him. ABUNDANT AND TRUSTWORTHY REFERENCE WILL BE FURNISHED TO ALL WHO ARE STRANGERS TO THE ESTABLISHMENT.

Address DAVID MILLER, Jr.,
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160 ACRES. FRUIT & ORNAMENTAL.

AGENTS WANTED.

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Buckwheat and all other **Seed Grain** of best varieties.

Turnip, Ruta Baga, Cabbage, etc., of the choicest kinds.

A full assortment of **Field, Garden** and **Flower Seeds, Plants, etc.**

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Best Flavored Strawberry.

Fuller's New Seedling, Crimson Favorite.

Plants of this superior Strawberry, which received the First Prize for flavor at the "Great Strawberry Exhibition," can be furnished in September at $1 per dozen.—Sent by mail, post-paid, $1 10 cents.

DESCRIPTION.—Flowers perfect, berry large, obtuse cone—bright crimson, vigorous grower, and productive.

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We will issue on the 1st of August a circular, giving varieties of strawberries that have proved the most valuable this season, with prices of plants, and other information, which will be sent to all applicants free of charge.

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Since graduating at the New-York Medical University, we have availed ourselves of the facilities found only in our large cities for the study of disease, and have given special attention to those of Women; also, of the Throat, Heart, and Lungs.

As medical practitioners we treat all diseases; but Chronic Affections claim our principal attention.

While this is not a Water-cure, the invalid will find a good gymnasium, and all the facilities of a well-conducted scientific Hydropathic Establishment.

The home reputation of a physician should be the basis of public confidence. For a fuller knowledge of the Institute, we refer to our Circular, and the reliable citizens of our village.

The medical profession are invited to acquaint themselves with the Institution.

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FRUIT JARS.
WITH EITHER
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They are SIMPLE, RELIABLE, and CHEAP, and the ONLY Jar of which there are NO COMPLAINTS.

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BERRY BASKET.
IMPROVED FROM LAST SEASON.

The cheapest in market!

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BUTTER, CHEESE,
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OF ALL KINDS
SOLD ON COMMISSION.

Constantly on hand, for sale, Flour, Fish, Salt, Mackerel, Pork, Hams, Lard, Beans, Dried Fruit, Soap, Starch, etc.

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Are essentially different from and greatly superior to all other instruments of their class. Wherever exhibited they have always taken the first premiums, and are recommended as

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They contain all improvements of value now in use, and are all

Warranted for Five Years.

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FLY-KILLER
Supplies a want felt by every good housekeeper. Every sheet will kill a quart were flies are thick. Remember that it is DUTCHER'S that does this, and refuse the base imitations that are offered. The real article is for sale by all respectable Druggists.

TO FARMERS
TO DAIRYMEN,
TO COUNTRY MERCHANTS.

ALL who have for Sale:

Sorghum Sugar and Syrup,
Furs and Skins,
Fruits, dry and green,
Hops, Tallow,
Cotton, Wool,
Butter, Cheese,
Lard, Beef,
Pork, Hams,
Eggs, Poultry,
Game, Vegetables,
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Seeds, Petroleum,
&c., &c.

Can have them *well* sold at the highest prices in New-York, with full cash returns promptly after their reaching the City, by forwarding them to the Commission House for Country Produce, of

JOSIAH CARPENTER,
32 Jay-street, New-York.

N. B.—The advertiser has had abundant experience in this business, and trusts that he will continue to merit patronage by the most careful attention to the interest of his patrons. The articles are taken charge of on their arrival, and carefully disposed of promptly to good cash customers, and cash returns made immediately to the owner. (The highest charge made for receiving and selling is *five per cent*, fruits and vegetables excepted.)

A New York Weekly Price Current is issued by J. Carpenter, which is sent free to all his patrons. A specimen copy sent free to any desiring it. A trial will prove the above facts. For abundant references as to responsibility, integrity, &c., see the "Price Current."

☞ Cash advanced on consignments of Produce.

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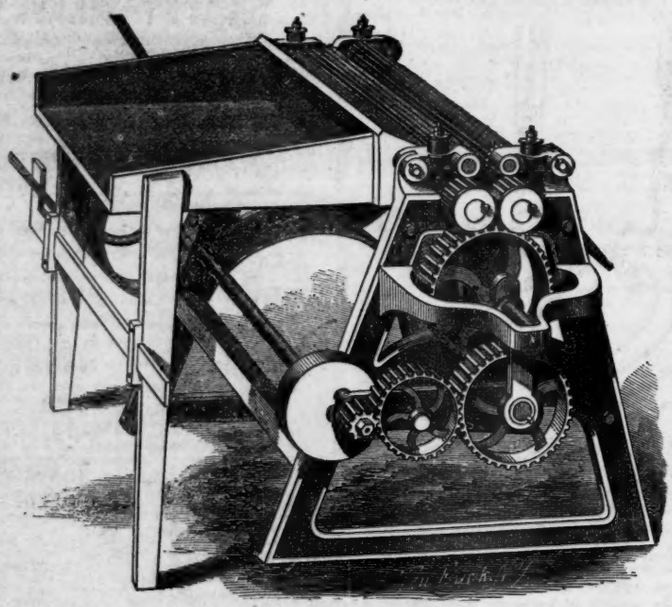
PRODUCE OF ALL KINDS BOUGHT.

SANFORD & MALLORY'S
PORTABLE
FLAX AND HEMP DRESSER.

Date of Patents, Sept. 16, 1862, and April 28, 1863.

Over Fifty of these Machines have been in practical use during the past season, and so great is the demand for the coming Fall that we have adopted the following plan, viz.: That we will only make to order. Many have already sent in their orders for



Machines to be delivered next Fall. Those who desire to use our Machine in dressing the crop of the present season, would do well to send their orddrs without delay, as all Machines are delivered according to date of order.

Made and Sold by

MALLORY & SANFORD,
HARLEM RAILROAD BUILDING,
Room No. 26, in White-st., near Centre.

Our terms are Cash on delivery of shipper's receipt or bill of lading, and persons ordering can send draft on New-York, or Treasury Notes, to some person here whom they know, or by Express, to be delivered to us on our delivery of bill of lading for shipment of Machine. Price at our Factory, at Paterson, New-Jersey, for

No. 1 Machine, (capable of dressing 2,500 lbs. of Flax Straw in ten hours,) **$355.**

No. 2, $255. No. 3, Hand Machine, $155.

FIRST.—A machine capable of dressing 2,500 pounds of flax straw in ten hours, can be sold at the factory, ready for shipment, at $355; and the second size capable of dressing 1,500 pounds of straw at, $255. A third size, capable of dressing from 600 to 800 pounds of straw per day, at $155. The smallest size weighs about 300 pounds and can be run by hand.

SECOND.—The yield of flax fibre by the use of this machine, in proportion to the weight of flax straw dressed, EXCEEDS BY AT LEAST ONE-FOURTH that obtained by any other machine or process.

THIRD.—The fibre, dressed by this machine, is much more valuable than that dressed in any other way, on account of the greater yield over the hackle.

FOURTH.—This machine is so simple in its construction and operation, that the liability to derangement is very slight.

FIFTH.—This machine does not require in its use any peculiar skill. It can be operated by boys or girls, and does not involve any risk to the hands or arms of the operatives, while the ordinary machines require the use of skilled labor, and as experience has proved, are always attended with risk to the operatives.

SIXTH.—This machine can be driven by any of the horse powers in use, and as it can be operated by ordinary farm labor, it enables the farmer to dress and prepare for market, at little expense, the flax raised by himself, thus opening to him a new and profitable occupation.

SEVENTH.—This machine is small, the largest size occupying only about four feet square, and weighing not over 1,100 pounds.

As there is a demand for larger machines for hemp, the proprietors are building such, capable of dressing two and-a-half tons of hemp straw per day.

The amount of flax fibre produced in the United States in the year 1850 was 7,806,909 pounds. Had the straw from which this amount of fibre was taken, been dressed by the Sanford & Mallory Machine, the yield would have been not less than 10,409,078 pounds. The increased product or the flax saved, at present prices, would be worth $650,542.

When it is remembered that in many of the Western States an immense quantity of flax is raised for the seed alone, the straw being destroyed or wasted as of no value, it will readily be seen that the introduction among farmers and manufacturers of a cheap and effective machine, capable of converting what would otherwise go to waste, into an article of great value, can not fail to produce the most important results.

It is well known that flax can be successfully cultivated in all the Northern States. If in addition to the value of the seed sufficient of itself to pay the entire cost of cultivation—the straw can be made a source of large profit, a wide field of successful industry will be opened.

That the statements here put forward as to the efficiency and value of the Sanford & Mallory Machine, and especially as to the great saving effected by it over any other machine or process known, are rather below than beyond the fact, will abundantly appear from the subjoined reports and letters from practical flax-workers and dealers. Nothing need be added to their direct and positive testimony.

Over fifty of these machines for flax and hemp have been in successful use during the past season, in different parts of the country, and the demand for them is now large—consequently, orders for them should be made early, as the coming crop of flax and hemp will soon be ready for dressing.

The demand for flax during the past year and-a-half has quite doubled its price, and it is now used for many purposes to which it was never before applied, and for which it is found to be superior to cotton and other materials before in use. Whatever, therefore, may be the future product of cotton, the demand for flax will not diminish, but, on the contrary, increase with its new and useful applications. It is now largely mixed with woolen goods of almost every description; is used for paper, wadding, batting, belting, druggets, delaines, calicoes, stockings, felt hats, and carpeting. Should the experiments for COTTONIZING flax, for which Congress has made a large appropriation, succeed, the already large demand for it would not only be enormously enhanced, but made practically unlimited.

Take a given quantity of Flax Straw, either over or under retted, and pass it once through this Machine and it will invariably have lost four-fifths of the shoove or woody part, without the least fibre of tow. The Machine requires two men, or boys, to tend it, and runs from eighteen to twenty hundred lbs. of straw in ten hours. There is no risk whatever to life or limb of the operator.

A dry or wet day makes no difference with this Machine, with reference to its result in the saving of Fibre.

The Machine can be seen in operation any day at room No. 26, Harlem R. R. Building, corner of White and Center Streets, New-York City, or at Mr. Harvy Wilcox's Flax Mill in Union Village, Washington County, N. Y.

This Machine with one-horse power will also run from four to six hundred lbs. of Hemp stalks per hour; leaving the fibre perfectly clean and straight, with not one ounce of tow to the ton.

Those desiring Machines this fall should order at once, as we shall supply according to the date of orders.

TESTIMONIALS.

JOHNSONVILLE, N. Y., April 27th, 1863.

MESSRS. MALLORY & SANFORD:

GENTLEMEN.—I have been using two of your Patent Flax machines since the 1st of January last. I have given them a thorough test with the old brake. They will save from three to six pounds of dressed flax to the hundred pounds of flax straw (according to the quality of straw used) more than the old brake, and will break from one and one-fourth to one and one-half tons of straw per day of ten hours—do the work better than any other machine I ever saw. It takes out nine-tenths of the shive or woody matter in passing through the machine once; consequently it requires less scutching than if broken with the old brake, which does its work very imperfectly—breaking some of the fibres and taking out no shive. My men tell me they would rather rough-dress two handfuls after your brake than one after the old. The fibre from your brake is left perfectly whole and straight, which is better for the manufacturers, as it will hatchel more to the hundred pounds than after the old mode of breaking. I have had a quantity hatched that was dressed after each brake—taken from the same lot of flax, and the yield was five pounds per hundred more after your brake than after the old. The fine tow is equally good with that after the old brake, while the coarse is worth one third more per ton. I think that if the machine is properly used it is not liable to breakage.

Yours truly, WM. H. BUCKLEY

BELFAST, IRELAND, May 1st, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—It gives me much pleasure to report that the five Sanford & Mallory Flax Brakes which I have been operating in the different flax districts of Ireland have given entire satisfaction to all who have seen and used them. The saving over all other machines in use is large; on some kinds of straw, being as great as one-third. This taken with the saving in labor will give an advantage in favor of the brake of from £3 to £5, or $15 to $25 per day, beside increasing the value of the fibre by softening and giving it better spinning quality. In conclusion, I would say that the machine has been approved of and recommended by the leading manufacturers of Ireland, and also by the Chemico-Agricultural Society of Ulster.

Yours truly,
EDGAR FOWKS.

SPRINGFIELD, Clark County, Ohio, May 5th, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—I have tried one of your brakes, and I have run through thirty-one hundred pounds in ten and one-fourth hours, which was well broken, and every way satisfactory. I am, gentlemen, yours respectfully,

E. MEEK.

UNION VILLAGE, N. Y., May 15th, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—I have used two of your Patent Flax Brakes for the past eight months, and take this opportunity of saying that they exceed any brake I ever saw. They take out from sixty to seventy per cent of the shive or woody matter, leaving the fibre whole, and in perfect ribbons. They will save from five to eight pounds of dressed flax to every hundred pounds of flax straw over any brake I ever used. We can break from one to one and-one-half tons per day of ten hours with each brake, and there is no danger of life or limb.

Yours with respect, HARVY WILCOX.

BLOOMINGTON, McClean Co., Illinois, May 2d, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—This is to certify that I have run your Patent Flax and Hemp Brake more or less since the 1st of December, 1862; have broke western tangled straw, and I find that it works complete as it removes at least sixty-five per cent of the shive, and so loosens the rest that they can very readily be shook out, and the stock has a soft oily feel which is worth more than when it has a harsh wiry feel, which is invariably the case with the old machine. I do not hesitate to recommend it to any one as the best machine ever used for breaking flax straw, whether straight or tangled, rotted or unrotted, as my experience has proved it so to my perfect satisfaction.

Yours truly,
F. A. HAVENS.

STITTSVILLE, N. Y., April 18th, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—I have used one of your Patent Brakes for the past four months. I am highly pleased with it, so much so that I would not be willing to part with it on any conditions, provided I could not obtain another in its place. I feel that it is a very safe machine for the person who operates it; whereas the old brake is not safe, as many persons will testify who have lost an arm by them. I am satisfied that I get more flax and less tow by using the new brake, while both flax and tow ore worth more in market than that in the old brakes, and certainly the new brake does not require near as much power to run them as the old one, which with many would be quite an object. My brother tells me that he has ordered another brake through your agent, to be used by us, as we are about to unite ourselves in the flax business the coming season. We will want it by the first of August next.

Yours truly, WM. B. LINK.

GREENWICH, N. Y., April 23d, 1863.

MESSRS. MALLORY & SANFORD:—

GENTLEMEN.—You ask our opinion in regard to your flax machine. We must say we are well pleased with it. The machine has been in almost constant use since we received it from you something like six months since, and it, we think, works better now than when we first started it. We advise all our customers to buy your brake in preference to those we formerly made at our machine shop. Wishing you success in this great invention, we are truly yours,

EDDY, DYER & CO.

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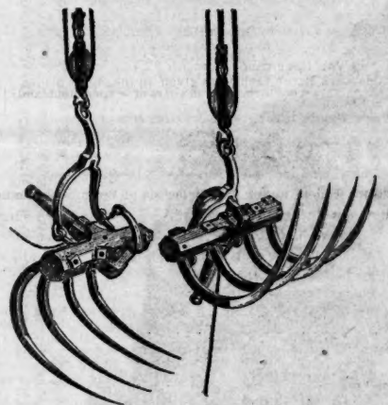
HORSE HAY FORK!!
PATENTED APRIL 7TH, 1863.



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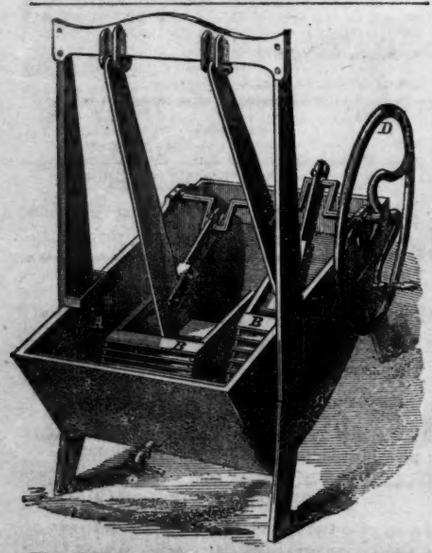

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Fig. 1. Fig. 2.

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